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The Builder.

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ILLUSTRATIONS.

Abbeys of Great Britain. No. 19. Byland. Drawn by Mr. Roland W. Paul.....*Double-Page Ink-Photo.*
Plan of Byland Abbey.....*Double-Page Photo-Litho.*
Church of St. Bartholomew, Ipswich. Mr. C. Spooner, Architect.....*Double-Page Photo-Litho.*
Mural Monument. Mr. Jas. C. Watt, A.R.I.B.A., Architect.....*Double-Page Ink-Photo.*

Blocks in Text.

Plan of Sites for proposed Government Offices ..... Page 262
Alternative plan for lower end of Parliament-street..... „ 263
Alternative plan of Great George-street Site..... „ 264
Sketches of London Street Architecture. VI.—No. 77, Welbeck-street .... „ 268
Sewer Outlet Door and Sewer Flushing Apparatus..... Page 274
Gate-house, Byland Abbey..... Page 270
South Transept, Byland Abbey..... „ 272
Sketches of Details, Byland Abbey..... „ 271
Slab from Byland Abbey..... „ 271

CONTENTS.

The Proposed New Government Office Sites..... 261
Notes..... 264
British Archæological Association..... 266
Architectural Association Summer Visits..... 267
Some Unpublished Letters of Gainsborough..... 268
Sketches of London Street Architecture.—VI..... 269
Watlingham Lunatic Asylum Competition..... 269
Archæological Societies..... 269
Competitions..... 269
Architectural Societies..... 269
Byland Abbey..... 270
Church of St. Bartholomew, Ipswich..... 271
Design for a Mural Monument..... 271
Association of Municipal and County Engineers..... 271
Books: L. F. Vernon-Harcourt's "Rivers and Canals"; F. Campin's "Constructional Iron and Steel Work as applied to Public, Private, and Domestic Buildings"; H. P. Boulnois' "Construction of Carriageways and Footways"; A. J. Wallis-Tayler's "Refrigerating and Ice-Making Machinery"; R. Grimshaw's "Shop Kinks and Machine Shop Chat"..... 272
Trade Catalogues..... 273
St. Mary's Church, Oxford..... 273
Sandown Castle, Deal..... 273
London County Council Contracts..... 274
Strike of Plasterers at the Rotherhithe Town Hall..... 274
Royalties on Brick Clay..... 274
Student's Column: Rural Drainage.—XIV..... 274
General Building News..... 275
Sanitary and Engineering News..... 276
Foreign..... 276
Miscellaneous..... 276
Capital and Labour..... 277
Meetings..... 277
Recent Patents..... 277
Some Recent Sales..... 277
Tenders..... 279

The Proposed New Government Office Sites.

THE "Report of the Select Committee on Government Offices (Appropriation of Sites)," with the evidence taken before it, forms the prelude to the next move in the unhappy series of piecemeal potterings with a great enterprise, for which we have to thank the combined procrastination and economy of successive Governments. So far as the character of its national public buildings can be taken as any indication of the essential greatness of a country—and it is more of an indication than many people realise—nothing can be more melancholy and disheartening than the whole history of the rebuilding of our national offices. Earlier in the century a great and comprehensive scheme might have been started, on a definite plan, by which all the Government offices of the country might have been gradually carried out in immediate connexion with each other and as one great architectural whole, which would have been a credit to the nation. Such a scheme was actually drawn out, on a perfectly feasible plan, by the greatest architect of his day. It could not have been carried out at once, but it could have been carried out piece by piece, with the result that when all the money had been expended we should have had something grand to show for it. But no Government of this country, dealing with public buildings, could be far-seeing enough for that. Instead of that, we have gone on in this piecemeal fashion, getting hold of one site here and another there, planting one building here and another there, with no reference either to their practical relations or to architectural grouping, until all chance of doing anything on a great scale has been frittered away, and we are offered merely a certain number of separate buildings on different sites, which, when they are all built, will probably have cost as much in the aggregate as would have been required to carry out the grand and uniform scheme of Sir Charles Barry.

The plan reproduced as Fig. 1 (see next page) exhibits the latest proposals for this sporadic growth of Government offices. It is one of three which were laid before the Special Committee by the Office of Works, and numbered in sequence; but the difference between the three consists only in the treatment of the block with the letters H, J, K, on what is called for distinction the Great George-street site; the nature of the difference between the three schemes is shown in Fig. 2 (page 263), where the three different lines of frontage to Parliament-street, belonging respectively to the three schemes, are indicated. To this point, and the reasons for these various lines of frontage, we will return just now. The main object of the plan, in which the proposed new buildings are shown black, is to show what sites are considered by the Office of Works to be available for giving all the increased accommodation now demanded by various Government departments. The War Office, as indicated, it is proposed to place upon what is distinguished as the Carrington House site. The Local Government Board extension (H), the Board of Trade (J), and the Education Department (K), are to be provided for in the Great George-street Block. The small block which may be called the Downing-street Extension is to provide for the Board of Agriculture (D), the Irish Office (E), Parliamentary Counsel (G), Temporary accommodation (N), while the remainder (P) would be partly appropriated for alterations and additions to the First Lord's house and partly, probably, to the Judicial Department of the Privy Council, the object of the narrow strip of new building (P) "being rather the completion of Downing-street than the acquisition of space." In regard to the small triangular block in Spring Gardens, it is proposed to locate there the Office of Works, the Office of Woods, and the Secretariat of the Civil Service Commissioners. The position would be a good one for the first-named Department, but we may say at once, as we shall not have to refer to this portion of the scheme again, that the idea of erecting odd slips of building in this way, merely filling up an irregular site left by two divergent lines of traffic, and leaving the building, like a street refuge, to take the shape left by the street lines, is one of the most wretched and paltry ways of building even minor Government offices that can well be imagined.

In regard to street improvement, it will be seen that the proposals include the long-demanded widening of the lower end of Parliament-street, and the carrying through of the Mall into Charing Cross.

The scheme presents three sides for consideration and criticism; first, the selection of the sites as regards their suitability to the Departments proposed to be assigned to them; secondly, the street lines as affecting traffic; thirdly, the architectural treatment of the buildings themselves. In regard to the question of position there were several alternatives considered before the Committee, besides the one shown on the plans; and as usual in such cases, it is somewhat amusing to notice the manner in which various members who have each a pet scheme of their own at the back of their minds, put adroit questions calculated to lead up to an inference as to the superiority of their own favoured scheme to any other.

The Carrington House site has been proposed for the War offices because it is the nearest to the new Admiralty offices, which, considering that it has been long admitted that it would have been best for the War Office and Admiralty to be under the same roof, is so far logical; and also because the offices could be entirely erected and completed there without causing any temporary disarrangement of the existing War Office during the process; the officials would simply move into the new building when completed. There is thirdly the fact that as most of the site is vacant, and the remaining property could be acquired without much delay, the new War Office could be carried out more quickly on that site than anywhere else, and the necessity for new quarters appears to be most pressing in that department. Upon this point Lord Lansdowne's evidence is very decisive. Two other proposals for the War Office, however, came out in the evidence. One is that which was led up to by Mr. John Burns, who asked Mr. Taylor of the Office of Works why the War Office should not be on the Horse Guards parade, facing the new Admiralty buildings (by which he apparently means forming a similar block on the other side of the axis of the Horse Guards), "under which arrangement you would have the Horse Guards in the middle, with the Admiralty buildings on one side and the War Office on the other." That means putting the War Office on what we have called the Downing-street site. One reason given by Mr. Taylor in reply is that there would not be space there for the War Office without pulling down the Treasury

PARLIAMENT STREET IMPROVEMENTS.

PLAN No. 1

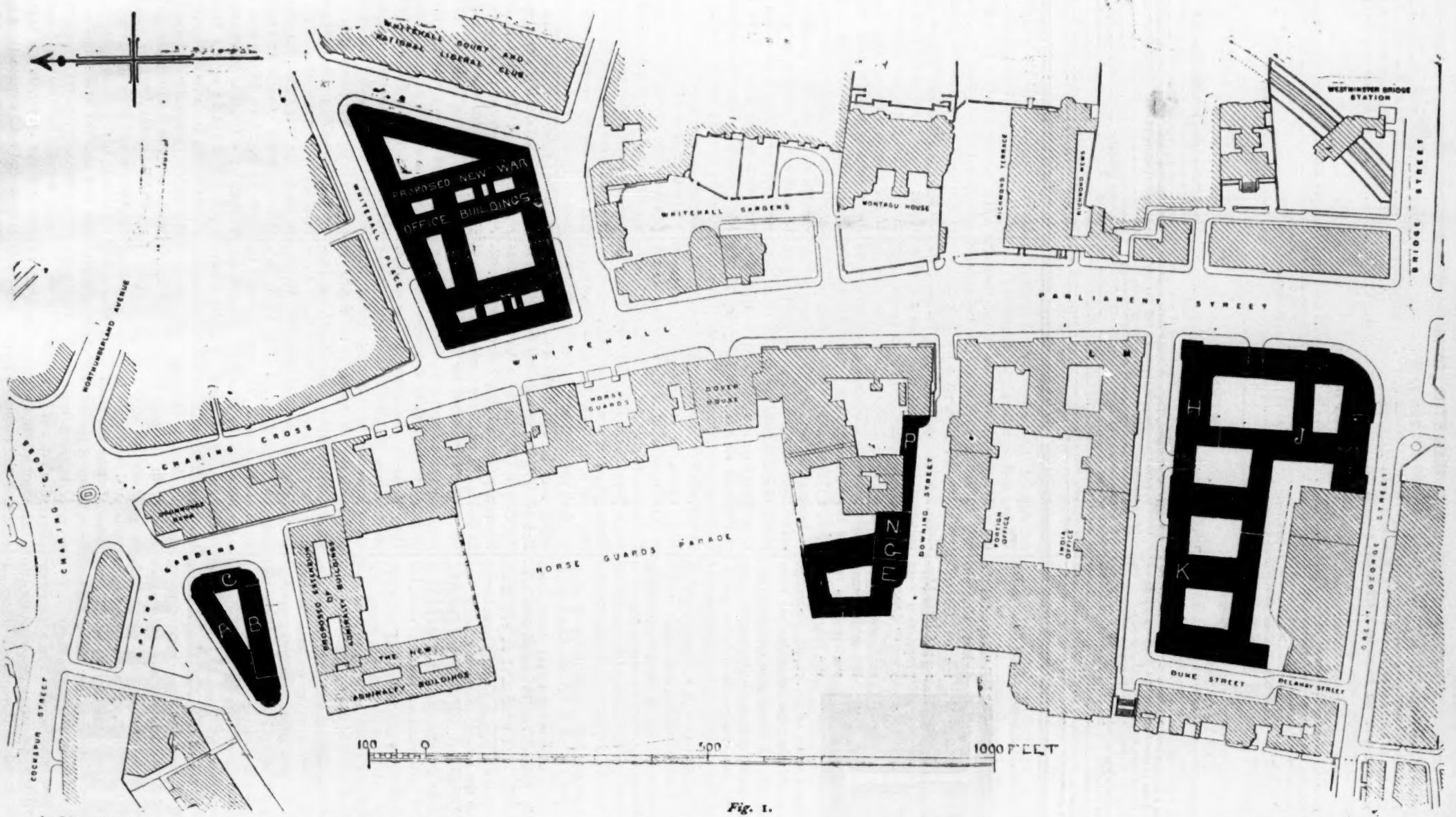


Fig. 1.

A—Office of Works, B—Office of Woods. | C—Civil Service Commissioners, D—Board of Agriculture. | E—Irish Office, G—Parliamentary Counsel. | N—Temporary Accommodation, P—Various. | H—Local Government Board Extension, J—Board of Trade. K—Education.

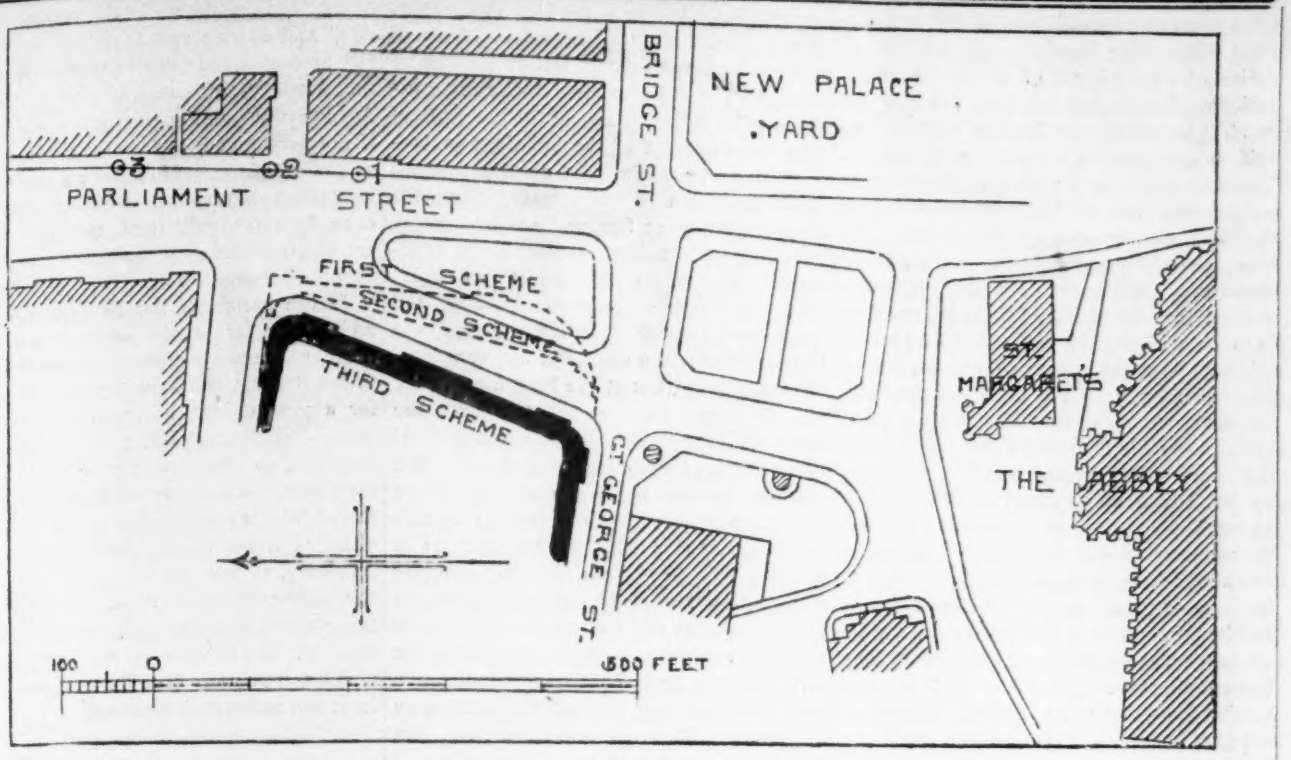


Fig. 2.

and the First Lord's House, which it is not desired to meddle with. No doubt in the abstract there is a desirable symmetry of location in Mr. Burns's proposal, but there is an architectural objection to it which neither he nor Mr. Taylor appear to perceive, viz. that in that case it would be almost necessary to design the War Office as a kind of architectural pendant to the new Admiralty, the most mean and commonplace building for such a purpose that a great nation ever erected. Architecturally, at all events, let us get the War Office independently placed and see if we cannot produce a better building. It was proposed in the course of the evidence that the old Treasury building, and the block to Whitehall with Barry's front, might be retained and made part of the War Office. Mr. Legh put it that in that case the War Office would present four different styles; Barry's Front, the Treasury building, the First Lord's residence, and the new block; he is quite right, and the effect would be absurd. Mr. Taylor parried this by saying that if the War Office were to be put on that site he should recommend making a clean sweep of everything, which would certainly be right in that case; but we do not wish to see a scheme which would destroy either Barry's Whitehall front or the front of the old Treasury building by Kent, both good pieces of architecture, not to speak of the Whitehall façade of Dover House, decidedly not a thing to be removed unnecessarily, though the back block towards the Parade is of little value. There seems therefore to be nearly every reason against the Downing-street site for the War Office. In regard to the Great George-street site, which was also mentioned, that would be a good site in itself, but, as Lord Lansdowne pointed out, it is a long way from the Admiralty, and therefore inconvenient, while he considers the Carrington House site to be very convenient in that respect. We may almost assume, therefore, that the new War Office will be built on that site. It may be added that the position H on the Great George-street site, which has been provisionally allotted to the extension of the Local Government Board, is particularly convenient for that purpose from its proximity, as it could be connected with the existing Local Government Board offices by a bridge or a subway.

All things considered, therefore, we are inclined to think that if the four sites shown on the plan are determined on as sites to be utilised, the proposed distribution of the departments in them is about as convenient as can be devised for their respective work. The plan, as already observed, involves two important street improvements. One of these is the long-talked-of carrying through of the Mall into Charing Cross. That this would be an improvement in the sense of appearance and effect there can be no question whatever, but the evidence of Superintendent Beard, of the Police, who was heard on the subject before the Committee, is decisively against it from a traffic point of view, and is too important to be passed over without at least full consideration. The following answer conveys the pith of his criticism:—

"368. Your objection to the prolongation of the Mall being, I suppose, to the introduction of another line of traffic into the most crowded crossing in that part of London?—Yes. The proposed road would come out just on the declivity of the hill. When you had a block in the traffic coming from Parliament-street and Whitehall, and a heavily laden vehicle would have to stop, it would be very awkward; and even now it is very awkward at times, especially during slippery weather; you often find horses stuck there, unable to get up the hill. If you had this new road coming in just on the declivity of the hill it would be very inconvenient, because you would have a considerable amount of traffic passing in and out of the new road, and it would cross all the other lines of traffic. If the new road came out near the Union Bank, it would come out at the top of the hill, and you would not interfere with the traffic going down Parliament-street and Whitehall."

This opinion certainly seems to be a sound and practical one, and brings into prominence a point in regard to this scheme which has been rather overlooked. On the other hand it must be remembered that the line proposed by Superintendent Beard would lose all the effect of the straight vista through into the Mall, which originally was supposed to be the principal recommendation of the scheme.

The other street improvement is the widening of Parliament-street, which in Plan I. is proposed to be done by simply carrying on the line of the Home Office front parallel with the east side of the street. But two other lines were proposed, as shown on fig. 2, solely with the view of rendering this part of the street more open for traffic. The mean line ("Second Scheme") we may however leave out of consideration, as it practically was by the Committee, the unanimous feeling evidently being (and rightly) that it was a compromise which possessed the disadvantages of both the other lines without the advantages of either. In the "third scheme" it will be seen that the front of the new building is set somewhat back to begin with, and then canted obliquely westward to a point opposite the fountain at the end of Great George-street. The main object of this proposal was to divide the east and west traffic better—to lead it to begin to divide higher up Parliament-street, and do away entirely with the present crush of traffic at the foot of Parliament-street. It was also stated as another object, that it would open up a view of the Abbey to a greater distance up Parliament-street, and the points marked "1," "2," and "3," on fig. 2, on the east side of Parliament-street, represent the positions from which the whole north flank of the Abbey could first be seen on coming down the street, according to schemes 1, 2, and 3 respectively. But when it is seen how little further up point 3 is than point 1, it does not appear to us that this object is much worth taking into consideration. Mr. Taylor was cross-examined by Mr. Herbert Gladstone, who it appears really originated this modification, with the view of extracting from him some admission that irregular and oblique

lines were more productive of fine architectural effect than regular ones, a kind of "First Commissioner of Works" æsthetic which we have heard before, and as to which Mr. Taylor wisely declined to commit himself to any positive expression of opinion. The sole merit of the plan is for the traffic arrangement, and on that score it is no doubt the best, as admitted by Mr. Taylor, who was strongly supported on this point by Superintendent Beard. But when it is considered that by Scheme I. Parliament-street is to be widened to just twice its present width, it does not appear to us that further expansion for the traffic is by any means so necessary as to override the disadvantage of giving away into the street a quantity of building space (the value of which is estimated by Mr. Taylor at £139,523 for Scheme III., as against £31,800 for Scheme I.) spoiling the proposed new building and cramping a site already barely large enough for what it is proposed to put upon it. As far as general architectural effect is concerned there can be no doubt that the parallel treatment of Parliament-street would be the finest, to any one coming down that street; and Mr. Taylor, we are glad to see, gave that opinion decisively in his evidence. And when the site was viewed from Parliament-square, looking northwards, the oblique line proposed for the building frontage would be very difficult to treat effectively in an architectural sense; and as to the plan, there can be no two opinions on the matter; it is just spoiling the building. Fig. 3 shows the difference, and the amount cut off the building as compared with Fig. 1*, as well as the exceedingly awkward shape which the eastern end of the site assumes. If that building is carried out on that site, we have no sort of doubt that the architectural advantages, using the word in regard both to plan and exterior, are entirely on the side of Scheme I.

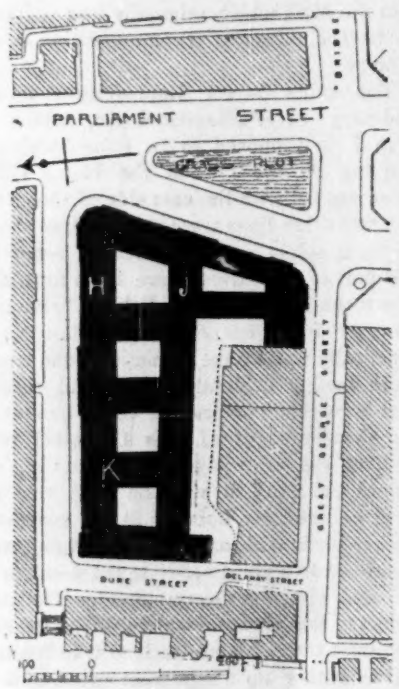


Fig. 3.

We presume we may conclude that the buildings are not to be carried out by the Office of Works, and that these block plans are only intended as a kind of skeleton on which to work out the general problems of site and superficial area. But even as far as they go there are two most important criticisms to be made in regard to the general plan and treatment of the buildings as foreshadowed here. We have already referred to the mean idea of the irregular triangular block proposed at Spring Gardens, simply cut out like a "refuge" between the roadways. But there is almost as great objection to the proposed plan of the much more important building for the War Office. There is a chance of a symmetrical front and flanks, but at the back there is the irregular angle running out to follow the shape of the ground, like a monster hotel that must make every foot of land pay. We venture to say that neither in Berlin nor in Paris would such a scheme as this be proposed for such a building as a national War Office—an irregular building following the lines of the surrounding streets. There would be the feeling that at all costs a grand symmetrical structure should be planned, and that the streets should give way to the building, and not the building to the streets. The plan indicated here, like all plans that come out of the Office of Works, is a surveyor's plan, not an architect's plan. The other point is the size of the internal courtyards shown on the block plans. These are all inadequate, and some of them, on the War Office plan especially, ridiculous and unsanitary. We have had that blunder already with the new Admiralty, and there seems to be every preparation to repeat it. And as a matter of architectural effect see how inadequate are even the larger quadrangles proposed. The quadrangle included between the Foreign and Home Offices is 250 feet by 170 feet, large enough for a fine effect. Let any one go and look at that, and then try to realise to himself what will be the effect of the Office of Works' quadrangles of sixty or seventy feet wide, and the large quadrangle of the War Office only 100 feet square, for buildings which are to run to five pretty high stories. The large ones are paltry in an architectural sense, the small ones worse; and if the calculation for superficial area has been made on the basis of these plans it will have to be re-considered, if any buildings architecturally worth the occasion are to be erected.

* Fig. 3 is slightly reduced in scale from fig. 1 in order to get it into the width of the column, but the figured scale in each plan will give the actual proportions.

NOTES.

The Presidency of the R.A.

Before very long the Council of the Royal Academy will meet to appoint another President, and there will certainly be much curiosity, as there seems to be at present entire uncertainty, as to the choice which will be made. It can hardly be said that there is any one man among the painters who would be regarded, by common consent, as Millais was, as the one on whom the choice would naturally fall. It might be easy to say who is the most distinguished painter now left among the Academicians, but it would have to be added that he is a foreigner by birth, and it seems hardly suitable that the President of the English Academy should be a foreigner. May we suggest that it would be a reasonable and perhaps even a popular move if the Academy were for once to turn its attention towards its architect members. We have heard much talk often from Academicians as to architecture being "the central art," "the mother of the arts," and so on; and there has been much talk among outside critics to the effect that the Academy of arts is really only an Academy of painting, the other arts being, if not overlooked, at least put into quite a secondary place. There is an opportunity now to give a practical answer to such criticism by a recognition of the right of the art of architecture to have at least its turn in the front seat. There is a precedent for it in the annals of the Academy; for one architect, a far inferior artist to any of the present architect members, was elected early in the century, and held the post of honour for a year, only to be turned out again on some quibble of form, probably arising in reality from the jealousy of the painter members. There are at least two among the architects who are R.A.'s the election of either of whom would reflect honour on the Academy, would be accepted cordially by the public (those of them who know anything about art), and would do something to readjust the balance in an institution in which the painters have for a long time had it far too much their own way.

Strike at Penrhyn Slate Quarries.

The troubles that have arisen with the employees at the Bethesda Quarries, near Bangor, which were alluded to in a former issue (*ante*, p. 169), culminated on Tuesday last in what is virtually a strike. On that day the men refused their "bargains," and in the afternoon notices were posted up by the chief quarry manager to the effect that all who had not then taken their "bargains" were to carry away their tools—in other words, the bulk of the men were then locked out. The men appear to have been very obstinate throughout. They entirely failed to substantiate their grievances when called upon to do so. In his reply to the men, Lord Penrhyn said that he found no sound reason given for an alteration in the nominal standard of wages, and added that to set up a calculation of the prices of the best slates as a basis for the adjustment of wages was altogether misleading. He informed them that if there were complaints of a grave nature he was always willing to redress them where he believed there was actual ground for them, which there was not in the present instance. It is to be hoped that the difficulty will soon be adjusted, for the closing down of such large quarries cannot fail to have some effect on the current price of slates.

Carfax Tower, Oxford.

The agitation which has been got up at Oxford about the proposed treatment of this tower is exceedingly absurd. The case is a very simple one. The church, a piece of churchwarden Gothic, has been pulled down, and no one seems to regret that; the tower is left standing, and it is the proposal of the Oxford Corporation and their architect, Mr. H. T. Hare, to case it with a new design, and retain it as a clock-tower, a proposal which has raised a storm of opposition. The lower part of the tower contains ancient masonry, but it has never been intended to be seen, and is plastered. The plastering cannot be left exposed to the weather, and the masonry beneath it is of so ragged a kind that it is also totally unfit for exposure. There is therefore no practical alternative left but to case it, for its very preservation, though the ancient masonry will be visible in the interior.

The upper part of the tower is, externally, a bad piece of restored Gothic of the early part of the century. The architect proposes to take down this portion and replace it with a design which is unquestionably far better in an architectural sense. The archæological Conservatives of Oxford complain that this is a wanton removal of an object endeared to them by association, &c. That is a comprehensible position. If they prefer the associations connected with a bad tower to the appearance of a better one, it may be right to humour them; it is a question of the greatest happiness of the greatest number. But they ought clearly to understand that this is the only argument they can use. The upper part of Carfax tower is not of the slightest value either architecturally or archæologically. It is a piece of bad Gothic of the early revival, and the very people who want, for reasons of sentiment, to preserve it now, would for the same reason have objected to its being carried out at all if they had lived fifty or sixty years earlier.

The National Gallery and Sunday Opening.

THE National Gallery and the National Portrait Gallery are, it appears, to be closed on Sundays in the winter. This seems to be a most unreasonable step on the part of the Trustees. It has been abundantly shown that the opening of these galleries was thoroughly appreciated by the public. On Sunday last, for example, 1,363 persons visited the National Portrait Gallery. Since, therefore, the opening of these galleries has been shown to be desirable on Sundays, it follows that they should no more be wholly closed on Sundays during the winter months than on week days. A change of hours may be desirable, but the entire closing of the galleries is wholly unjustifiable. Another point to be noted is that October can in no sense be considered one of the winter months. It is probable that the light, if the weather is fine, will be as good, except for the last half-hour or so, as it was in September. Even therefore if there were some justification for closing these galleries during November and December on Sundays, there would be none in respect of October. The winter months are essentially those during which indoor places of wholesome recreation are most required, and therefore these galleries, now that Sunday opening has been proved to be desirable, should have been kept open on Sundays during the winter for as long as possible. It is to be hoped that a memorial will be laid before the First Lord of the Treasury on this matter, so that the resolution of the House of Commons may not be evaded by the Trustees of these two galleries.

An Archæological Battle.

THE controversy in the archæological world over the tiara of Saitaphernes, in the Louvre, threatens to be internecine as regards reputations. As soon as the tiara was exhibited at the Louvre, its extraordinary richness and beauty attracted attention, and it was too conspicuous an object not to have its authenticity promptly attacked by the French Press. This attack was strengthened by the fact that a Russian archæologist pronounced the tiara a forgery, and even named the place where it had been fabricated. Russia just now is sure of a hearing in France, and the matter seems settled. But this did not content the German archæologist, Dr. Furtwängler. In an article in *Cosmopolis* he attacked the tiara in no measured terms—this archæologist is indeed not accustomed to measure his terms—the style of the tiara was "pitiable" ("ganz jämmerlich") and the conclusion was obvious that the officials of the Louvre were either ignorant or careless. To this accusation comes now a double counterblast. M. Héron de Villefosse in *Cosmopolis* for September, and M. Salomon Reinach in the *Gazette Archeologique*, stand solid for the tiara. M. Reinach earns our gratitude by publishing the tiara, so that so far as is possible in a work of the goldsmith's art a private judgment can be formed. It is scarcely surprising after the tone of Dr. Furtwängler's attack that M. Reinach should recall the past blunders of his antagonist. "Il a rempli les vitrines de l'Antiquarium de fausses terres-cuites, il a condamné sans l'avoir vu le fameux camée du Cabinet de France répresentant Julie fille de Titus, puis en présence du monument il s'est loyalement retracté." Indeed, as M. Reinach points out, there is one good point about the Munich Professor, "il ne recule pas devant le palinode"—only too many palinodes damage a reputation.

The Cernuschi Museum.

THE collection of objects of Eastern art left recently by M. Henri Cernuschi to the city of Paris, is now being arranged in a fine mansion in Avenue Velasquez, adjoining the Parc Monceau. The house, of which M. Van der Goyen was the architect, is in a very simple style and presents no exterior decoration except the medallions containing mosaic portraits of celebrated philosophers. Internally there is a fine entrance vestibule leading to a large staircase with a colonnaded gallery round it on the upper story, from which opens a series of rooms hung with kakemonos and other Japanese paintings, and filled with Chinese and Japanese furniture, leading to a lofty oak-panelled gallery, in the centre of which is an immense bronze figure of Buddha. Around this gallery there are arranged in stages a number of bronzes and other articles which M. Cernuschi had collected during his travels in China, Japan, and India—prayer-wheels, perfume-boxes, bells, metal mirrors, statuettes, animal grotesques, enamels, vases and ceramic ware of all kinds. In the suite of adjoining rooms are a number of smaller objects of the same kind. The whole will be open to the public as soon as the arrangement of the collection is complete and the museum formally taken over by the authorities, and will prove a collection of quite exceptional interest to students of Oriental art.

Haddon Hall.

A CORRESPONDENT writes to suggest that the Duke of Rutland should alter the present arrangements under which persons are allowed to visit Haddon Hall. At present, it appears, persons are conducted in parties through the building by a female custodian. It is thus impossible to give individual study or attention to any particular room or architectural point. As the rooms are without furniture it is suggested that visitors should be allowed to pass through unattended as quickly or as slowly as they like. In each room there should be placed a notice, giving the most interesting points in connexion with it. A single custodian inside the house to see that no one cuts his name on a piece of panelling, about the sole act of vandalism possible or probable, would only be necessary. The student of English architecture, or social history, would then be able to give such time as he desired to the building. Since the Duchess of Rutland has published a kind of guide to Haddon Hall, in the form of an enlargement of an article published in the *Quarterly Review*, it is to be hoped that a more intelligent plan of allowing visitors to see the house than the present will shortly be adopted.

Clement's Inn and Portsmouth-street.

THE demolition of the old buildings in Clement's Inn is now completed by the destruction of the Garden House. It is supposed to have been built *temp.* Anne, but the third story, above the cornice, was a later addition, whilst the balconies and casements appeared to be comparatively modern insertions. On the lawn, east of the house, stood until twelve years ago, the leaden figure of a negro supporting a sun-dial which the Earl of Clare presented to the Inn—on the dial is the date "1731." The figure was purchased in 1884, for twenty guineas, by Mr. William Holmes, who gave it to the Society of the Inner Temple, to whom Clement's Inn formerly appertained. It is now in the garden between Paper-buildings and King's Bench Walk. Having for long borne a threatened life the "Black Jack" tavern in Portsmouth-street, Clare Market, has at last been pulled down. It is said to have been a favourite haunt of Joe Miller (*obiit* 1728), and to have taken its local name of "The Jump" from the circumstance that Jack Sheppard on one occasion escaped the thief-takers by jumping from a first-floor window into the street. At the "Black Jack" was kept by medical students a non-official register of the names of those who passed their examinations at the College of Surgeons. Another relic was a horse-shoe nailed against the door-step within, and reputedly a shoe of Turpin's "Black Bess." Joe Miller was buried in the adjacent graveyard of St. Clement Danes; his tombstone, set up in 1816, has been preserved in King's College Hospital.

Electric Lighting in Country Houses.

PEOPLE who live in country houses where oil lamps are used often discuss the feasibility of making and using their own electric light. Their discussions seldom lead to anything, as they have only the vaguest notions as to the probable cost. It is, however, in certain cases a much simpler matter than is generally supposed. It is essential that there should be an outhouse about 18 ft. long that can be utilised for the plant, which will consist of an oil-engine, a dynamo, and accumulators. The accumulators need to be charged three times a week, but this can be done by the gardener without interfering unduly with his ordinary work, as the plant can be made almost automatic. For a house using thirty or forty 16-c.p. glow-lamps, there are many first-class firms who would put up the plant, fittings, &c., for less than 250*l.* As the result of working such a plant in a small house where twenty-five lamps were installed, it was found that a pennyworth of paraffin in the

oil-engine lit eight 16-c.p. lamps for an hour, and we think that this rate might fairly be calculated upon. Depreciation and repairs have to be allowed for, but this is not nearly such a formidable item as it was ten years ago. As accumulators are used, there need be no fear of any sudden failure of the light.

The Photographic Salon.

In the "Forewords" (why cannot they say "preface"?) to the catalogue of the Fourth Exhibition of the Photographic Salon, now open at the Dudley Gallery, there is a protest against the attacks which have been made upon its "supposed pretensions." "The object of the Photographic Salon," it is stated, "is to give to pictorial work in photography a place of its own, ... without reference, of necessity, to the conventions and principles established by other graphic methods." But in that very phrase there is the "pretension" revived. Photography is not a "graphic method." "Graphic" implies drawing, and photography is only reproduction by a process. All that remains to the photographer is the choice of subject and of lighting, and of the manipulation of the process so as to produce a special texture. It is to this latter end that a good deal of the effort of the photographer seems to be directed. Photographs are made on rough drawing paper with a strong grain, and are apparently further manipulated by some process, which we do not understand, so as to imitate the effect of a roughly washed monochrome drawing. This effect seems to be carried to its furthest possible extreme in such photographs as Mr. Davison's "From a Landing Stage" and "Rain, Steam, and Iron" (107, 108,), which really look like rough monochrome brush sketches; but as we know that they are not, it becomes only a trickery of manipulation. In some landscapes, as in Dr. Henneberg's "Stormy Weather" (9), the moment and the light have been very well chosen, and we have a record of a powerful effect in nature. The attempts to produce ideal subjects from real figures are as absurd as ever, especially in such classic subjects as Mr. Langfield's "Artemis" and "Young Diana," mean semi-nude figures which only serve to show again how much such subjects owe to the art of the painter. Mr. Le Begue's "Étude de Nu" (35) is really useful, as it gives the opportunity of comparing a good figure in nature with the always more or less idealised nudes of the painter, and it makes no pretension to artistic sentiment. As usual we find that architectural subjects, to which photography can do more justice than to any other class of subject, are nearly neglected.

Artists' Costume Supply Association.

This Association has opened some rooms in Lower Phillimore-place, Kensington, for the exhibition of costumes, which can be hired by artists who wish to paint any historical characters. The dresses seem to be made with great care, some of them being exact copies of dresses from old portraits. There is one pale yellow silk gown, a reproduction of the one worn by Anne of Cleves in her portrait by Holbein; another is the copy of a gown worn by Henrietta Maria. There are also many costumes not copied from pictures, but which are good specimens of the dress worn at different periods, with their hats, collars, hosen, and other garments all complete; indeed, we think an artist turned loose amongst so much brocade and embroidery, Greek drapery, Japanese satins, Georgian coats, Mediæval garments, &c., would be pretty sure to find something with which he could appropriately clothe his figures, and, as the charge for hiring is very moderate, the association may be very useful to young painters who cannot afford to go to much expense for costumes.

A Cement Periodical.

Cement and Engineering News is the title of an illustrated monthly paper which has recently commenced its career in Chicago. As it name implies, it is devoted to the cement industry. Each of the three numbers already published contains, as its principal feature, an instalment of a paper by the late Henry Faija, on "The Manufacture and Testing of Portland Cement." They are reprinted from the *Transactions* of the American Society of Civil Engineers. The remaining matter is generally a little fresher. The editorial of August is remarkably fresh. Here is a sample:—"When, however, it [competition] stalks across our land clothed in arrogant pride, divorced from truth, it shall be a mark for our keenest rapier, thrust well home." Interesting and valuable information is scattered throughout the numbers concerning cement and hydraulic lime, and their uses in concrete pavements, bridges, and buildings, and when the editor's keenest rapier has lost a little of its point, even the leading articles may become instructive.

BRITISH ARCHÆOLOGICAL ASSOCIATION:

ANNUAL CONGRESS.

Exceptional and quite unavoidable circumstances having combined to frustrate the intention of the Council of the British Archæological Association to hold a congress at the usual period of the year and in the country, it was decided that the fifty-third annual meeting should be held in "London and the Home Counties" in the autumn, and, the Lord Mayor having signified his willingness to become the President, the congress was opened by a reception of the members and visitors at the Mansion House at noon on Monday, September 21.

After expressing the great pleasure it afforded him to be the President of the Association, and as chief magistrate of the ancient City of London, to welcome the members to the Mansion House, the Lord Mayor called upon the Ven. R. Thornton, D.D., Archdeacon of Middlesex, to deliver the inaugural address. The Archdeacon, in the course of his address, pointed out the valuable help to be derived from the study of archæology to the true knowledge of history. Archæology was much more than a mere spirit of antiquarianism which, he said, was simply a delight in the collection of antiquities as such; but archæology, on the other hand, was the "logos" or science of old things, and the archæologist was the scientific student of that which was old, qualified by his careful researches to pronounce correct opinions upon the various antiquities brought before him. Archæology was the handmaid of history, and as chronology had been termed the "eyes of history," so might archæology be called, with equal truth, the "hand and foot of history." History dealt with what men have done, archæology with what men have made, although the word "made" would hardly apply to manners and customs, which was one branch of the study of archæology. Still, as they were usually associated with external things, he thought the distinction might be allowed. An intelligent acquaintance with the warlike instruments of past ages and the architecture and the burial places of the men of old was most helpful in dealing with historical questions, and a suit of armour of the fourteenth century gave no little assistance towards a higher appreciation of the history and description of the battles of Crecy, Poitiers and Neville's Cross. Archæology, again, helped history in deciphering the ancient inscriptions on monuments and tombs, and was most valuable in that branch of historical science termed the comparative history of religions. The researches of archæologists enabled us to understand Egyptian, Assyrian, and Babylonian history, and helped history in dealing with extinct civilisations. There was much material still wanting to fill up the blank pages in the history of Carthage, and here the labours of the archæologist would be of the greatest assistance. The British Archæological Association, however, had more to do with the history of the British Isles, and he would commend to the Association the search for pre-Celtic names, as he thought that many of our names which could not be traced to Celtic origins might have been derived from the predecessors of the Celts. The study of the primeval races of our own country was most fascinating, and an inquiry such as he suggested might lead to results of the highest value to the scientific historian.

Dr. Birch, hon. sec., moved a vote of thanks to the Archdeacon for his eloquent address, which was seconded by the Rev. J. Cave-Browne, and carried with applause.

After partaking of the hospitality of the Lord Mayor, the members proceeded in private omnibuses to the Charterhouse, where they were received and welcomed by the Rev. Canon Elwyn, D.D., the Master, who led the way to the Tapestried Chamber, now the Governor's Room, and after some introductory remarks invited Mr. Geo. Patrick, hon. sec., to read his paper on the "History and Architecture of the Charterhouse." Mr. Patrick had had prepared a large plan of the buildings of the Charterhouse, from one made by the late Mr. Carpenter some years ago, and an enlarged plan from Viollet-le-Duc's "Dictionnaire" of one of the cells of the Carthusian house at Clermont, to illustrate his description of the Charterhouse. He traced the history of the building from the original foundation by Sir Walter de Manny, in 1361, who appears to have been the trustee of a sum of money left by Michael de Northburgh, Bishop of London, for the building of a Carthusian monastery upon a piece of ground outside the City walls then known as "no man's land." This land had been used as a burial place during the terrible pest called the Black Death, which devastated London in 1349, which must indeed have been a dreadful visitation from the account given by the old chronicler, Stowe, who says, "It so wasted the people that scarce a tenth person of all sorts was left alive, and churchyards were not sufficient to receive the dead; but men were forced to seek out certain fields for burials." This "no man's land," some three acres in extent, was situated on the further side of the Clerkenwell-road, formerly known as Wilderness-row, and directly facing the spot where, afterwards, was the kitchen-garden of the monastery. A chapel was built upon a portion of the land which was called "Pardon Chapel," because therein masses were said for the repose and pardon of the souls of those buried close by. The pestilence continuing to increase, it became necessary to provide further space for the interments, and Sir Walter de Manny purchased some thirteen acres adjoining and gave them for that purpose. It is said by Stow that 50,000 persons were buried there—This land afterwards became the site of the Charterhouse Monastery, which was built by the bequest of the Bishop and the help of Sir Walter de Manny. The house was by the King's license dedicated to the "Salutation of the Mother of God," and was established for twenty-four monks and a Prior. The monastic buildings still remaining are the Guesten Hall, the Monks' Refectory, the Lay Brothers' Court and the Gate-house, these are mostly of the early part of the sixteenth century when the monks appear to have gone in somewhat extensively for rebuilding, *circa* 1509. The Chapel, although greatly altered by them at this period still retains some parts of the original building, the south and east walls being of an earlier date, probably of 1371. The ante-chapel and chamber over it, both with groined roofs, are, however, of the later date of 1509. After the dissolution the buildings were considerably altered by their successive owners to suit them to secular purposes. In 1554, Sir Ed. North, to whom Charterhouse was given by the King, pulled down the cells, &c., round the great cloister (a fragmentary portion, however, of one of the doorways still remains *in situ*) and to him is due the present entrance gateway. In 1565 it was purchased by the Duke of Norfolk, and he spent much money in effecting the alterations

which we still see. The Earl of Suffolk, the second son of the Duke, sold the property to Mr. Thomas Sutton in 1611, the generous founder of the celebrated hospital and school of Charterhouse, for £13,000.

Time did not allow the archæologists to linger long amid these interesting surroundings, but the Rev. H. V. Le Bas, the Preacher, was able to point out some of the principal features and more prominent remains of the ancient building, including a portion of a coloured tomb, with shield of arms of Sir Walter de Manny, which had been discovered in a wall of the Registrar's house in 1894.

Carriages were now resumed, and the party drove to the Church of St. Bartholomew the Great, which was fully described by Mr. Aston Webb, and illustrated by many plans and working drawings prepared by him. Taking his stand in the middle of the choir of the ancient church, Mr. Webb gave a lucid description and history of the church. Alluding to the story of the founder, Rahere, and his building this church in consequence of a vision or dream of St. Bartholomew, in which he was directed to do so in the suburbs of London in Smithfield in the year 1123, Mr. Webb explained the many and great difficulties which had to be surmounted before the restoration, so far as it had gone, could be carried out. The stone of which the church is built was brought from various localities around the metropolis as far apart as Reigate on the south and St. Albans on the north. Mr. Webb pointed out the early use of the pointed arch in the tower in conjunction with the round arch, owing to the tower not being square in plan, and the necessity for all four arches being of the same height to carry safely the weight of the tower. The visitors appreciated the careful and reverent way in which the works of restoration had been carried out. The Lady Chapel has been cleared of all that encumbered it, but still awaits the advent of further funds before it can be similarly restored. The church, as far as the crossing, is a fine example of Norman architecture, up to the clearstory level, the clearstory itself being of the Perpendicular period, about 1410. The present church is the choir of the ancient one, the nave having been completely destroyed, its site forming now the graveyard. Some remains of the old south wall, and the bases of the Early English shafts of the nave yet remain, and may be seen on either side the approach to the present western porch. Prior Bolton made great alterations in the church, and inserted the oriel window in the middle arch of the Norman triforium about 1520. His rebus, a "bolt-in-tun," can readily be discovered. A beautiful canopy of tabernacled work of the early fifteenth century surmounts the tomb of the first Prior, Rahere. The tomb is of the same date, and his body lies within it.

Leaving St. Bartholomew's, the visitors now proceeded to the Temple, where they were received by Mr. F. A. Inderwick, Q.C., and under his guidance visited the Temple Church, and listened to his description of the building and its history, and then inspected the halls of the Inner and Middle Temples, under the guidance of himself and his Honour Judge Waddy, Q.C., by whose kindness tea was provided, after which the members returned to their headquarters, the First Avenue Hotel, Holborn.

In the evening a reception was given to the Congress by the Library Committee of the Corporation of London in the Guildhall Library, Museum, and Art Gallery, where a most interesting collection of antiquities was set forth for inspection. Sir Richard Cotton, the Chamberlain, exhibited the City sceptre and purse, and Mr. Welch, the Librarian, exhibited from his department many rare examples of early printed books, manuscripts, and other treasures. A fine collection of bronze weapons, spear-heads, and swords found in the Thames off Erith and at Millwall were exhibited by Dr. Corner, all being in splendid condition.

On Tuesday, the 22nd, the members and friends left King's Cross Station for St. Albans and Hatfield. The weather was very wet, and the drive to the remains of the ancient city of Verulamium was abandoned, the party proceeding direct to the Abbey Church of St. Alban. A paper dealing with the history of the Roman city, by Dr. Winstone, was to have been read by Mr. Patrick upon the site, but was obliged to be postponed. Mr. James Neale, F.S.A, who has made the Abbey Church of St. Alban, now the cathedral, his special study, and by his knowledge of its history and architecture is more than generally competent to describe it, was kind enough to give the Congress the advantage of his guidance. After a short account of the building of the church, delivered in the nave, aided by a plan and other drawings, Mr. Neale conducted the party round the whole building, commencing in the entrance porches. He pointed out the remains of the old work there and showed how they differed in character and beauty from the work recently executed in connexion with them. These western porches were partially the work of Abbot John de Cella, who commenced the rebuilding of the Norman west front early in the thirteenth century. He died before he had advanced very far with the work—in 1214. His successor, Abbot Will de Trumpington, completed the west front, but on a less ambitious scale, and built the five westernmost bays of the south side of the nave and four on the north side. Proceeding through the church, Mr. Neale pointed out the work of Abbot John of Hertford, and then described how on St. Paul's Day in 1323, during the celebration of mass in the time of Abbot Eversdene, three piers and a large part of the walling on the south side of the nave fell down, and some time afterwards the roof and part of the south aisle also fell. The Saxon work in the triforium of the transepts, the remains of an earlier church, were pointed out, and the difference in the working of the stones of the Saxon shafts and the later caps and bases were explained. Mr. Neale remarked that it was rather a singular circumstance that in all the recent restoration of the Lady Chapel, transepts, &c., not a single instance of a mason's mark had been discovered.

While admitting the excellence of the execution of the recent work, the archæologists could not but greatly regret the seemingly unnecessary destruction of many of the ancient architectural features of the building and the meaningless way in which others had been treated and so-called "preserved," as in the wall-arcade of the slype and the Norman arch which opened to it from the cloister. After a very pleasant and instructive two hours had been passed in the Cathedral, the party adjourned, still in pouring rain, to the Peahen Hotel for luncheon, and, a little before three o'clock, departed by train for Hatfield. At Hatfield House Mr. Neale gave a brief account of the history and building of the house; the name of the architect, however, is not known, but he is considered by some to have been a Florentine; others consider Thorpe to have designed the building. By the special permission of the Marquess of Salisbury, the old Palace of the Bishops of Ely situated near the lodge was viewed; it was built by Bishop Morton; the building is now used as stables but is well cared for, and is historically interesting from having been the residence of the Princess Elizabeth at the time she was called upon to succeed to the throne. In the evening at the Council Chamber of the Guildhall, Dr. R. R. Sharpe read a very interesting and learned paper on "Pleas of the Crown," which dealt with a long series of the records of City misdemeanours in days gone by. The coroner appeared to be the officer most frequently in requisition and in coroners' inquests the jurors were witnesses and gave evidence before the coroner and sheriffs.

A paper was read by the Rev. W. S. Lach-Szyrma, M.A., on "Old London Parish Churches," the lecturer remarked that there were no remains of the churches of Roman London, and scarcely any, indeed, of Saxon London, possibly some might be found at St. Ethelburga. There were remains of those built after the Norman Conquest, but the 15th century was a great church-building period, and to it most of the London churches belong. A third paper: "Reflections on the Past Glories of Hatfield," was read by Miss Edith Bradley, and was listened to with interest, being appropriate to the visit to Hatfield the same afternoon. The account will be completed in our next issue.

Examination of Plumbers. — Twenty-one operative plumbers were examined for enrolment on the National Registration of Plumbers at the Borough Polytechnic Institute on the 26th inst. The examinations were to test the candidates' handicraft, skill, and knowledge of subjects relating to internal and external plumbing and house drainage. The candidates were from Cambridge, Seaford, Chesterfield, Northampton, Nottingham, Cardiff, Oxford, and various districts of London. The examiners were: Messrs. Charles Hudson, Chairman of the Board of Examiners of the Plumbers' Company; J. Hume and W. H. Webb, Master Plumbers; Mr. C. T. Millis, Principal of the Institute, and Messrs. F. Randall, F. Barter, and J. J. L. Scott, representatives of the United Operative Plumbers' Association of Great Britain and Ireland. Seven candidates succeeded in passing the full examination.

ARCHITECTURAL ASSOCIATION SUMMER VISITS:

EARL'S COURT EXHIBITION.

A party of more than a hundred members of the Architectural Association visited on Saturday the 19th ultimo, the Empire of India and Ceylon Exhibition now being held at Earl's Court, Kensington. The chief object of the visit was to afford the members, as architectural students, an opportunity of studying the construction and arrangement of the Empress Theatre, the purpose of which being first and foremost spectacular display, requires very different planning to that of an ordinary theatre or opera house. Width rather than depth is the first essential of the spectacular stage, hence this runs lengthwise of one side of the building, 315 ft. long with the auditorium for 5,000 spectators on the opposite side. The width of the building embraces therefore the depth of the auditorium and of the stage, and as the roof span is 220 ft., one of the largest spans in the world, the members were taken up into the roof, to give them an opportunity of studying the construction of the bow-string girders that form the trusses. First, however, their attention was directed to the stage mechanism. The whole of the stage stands over an enormous tank of water, and is composed of sections each 10 ft. wide and 12 ft. long, which are carried on iron framework running on rails at the bottom of the tank. The stage is in two divisions, an upper and lower, the latter being capable by an ingenious arrangement of being run underneath the upper. Thus either a large or small expanse of water can be exposed, or the whole can be covered, or, if desired, islands or peninsulas can be formed. Upon the stage, both upper and lower platforms of any required size and height are formed by means of movable and collapsible platforms, which, in sections or as a whole, can be moved in any direction, they being all fitted with double sets of wheels, one to run on tram lines, the other on castor wheels. Another radical departure from usual stage working is the management of the scenery, which, with the exception of a few small sets, is entirely suspended, and when removed wound up on immense vertical revolving rollers. Thus no gridiron floor is required, and height is saved in the building, whilst in addition to the economy of space the scenery is better preserved. After a thorough inspection of the stage and its mechanism, seats were taken for viewing the spectacle and thus appreciating the effects obtained from the means already examined. During the interval a visit was paid to the electric power house.

The power house contains eight Cornish boilers and engines for the dynamos supplying the current for 6,000 incandescent lamps and 250 arc lamps. By these, plus gas-light for illuminations, the whole exhibition is lighted, as well as the gigantic wheel. The current is supplied to the lamps on the wheel from a circular cable on the end of the axle, which is acted upon and in contact with brushes fixed to the uprights. The theatre is lighted by arc lights in the auditorium, and by different-coloured incandescent lights over the stage, by combinations of which varied effects of lighting are obtained, assisted by calcium lights on occasion.

After the close of the performance the dressing-rooms were inspected. These are arranged in two blocks, each five stories high, for male and female performers respectively, and accommodating 1,200 in all, besides 112 stage supers and mechanics. Mounting to the top of the theatre building the visitors ascended the flies and examined the mechanism for working the scenery, including the clever electric motor windlass, devised by Mr. W. Bond, the superintendent of works. From the roof of the men's dressing-room block the party gained access by a circular iron staircase to the suspended orchestra, an almost unique feature in theatre design, and seating about forty bandsmen at the top of the building, high over the stage.

After an adjournment for tea, visits were paid to the other chief features of the exhibition, the gigantic wheel and its engines, the Indian city, the Imperial Court, the Queen's Court, and the panorama of Ancient Rome.

The whole of the buildings and arrangements in the grounds were designed by and constructed under the personal superintendence of Mr. A. O. Collard, but mainly from the ideas of Mr. Imre Kiralfy, who has practically suggested the whole. The staging and seating of the theatre were carried out by some thousand workmen employed directly by the promoters, and superintended by Mr. W. Bond, to whose ingenuity is due very much of the credit for the clever and original arrangement of most of the stage mechanism.

The bulk of the work of the exhibition buildings was carried out under the usual *régime*, there being over thirty different contractors for various parts of the work. The chief contractor for the theatre was Mr. D. Charteris, whilst the ironwork of this building was sublet to Messrs. Handyside & Co. The plaster decoration of the Empress Theatre was carried out by a Belgian maker, Mr. Verstappen, whilst Messrs. Marshall & Slade, of Holloway, executed the plaster façade of the Queen's Palace, Messrs. Barker & Co., of Kensington, and Messrs. Hallé & Co., of Paris, being entrusted with other parts. Some of the plasterwork was executed *in situ* from designs prepared by the architectural staff; other was made elsewhere, and fixed only on the work, whilst correctness of local colour, particularly in the Indian city, was obtained by following the advice of Mr. C. Purdon Clarke.

The members of the Architectural Association were escorted through their visit by Mr. Charles Kiralfy, as the representative of his father, Mr. Imre Kiralfy, as well as by Mr. A. O. Collard, the architect; Mr. W. Bond, the superintendent of works; and Mr. G. A. Lansdown, the Organising Secretary of the Visit, to whose energy and painstaking was due the inclusion of the fixture as the last for the present year of the Summer Visits of the Architectural Association.

SOME UNPUBLISHED LETTERS OF GAINSBOROUGH.

Whether we agree with them or not, the opinions of men upon subjects of which they are acknowledged masters are always of interest and value. It may be true that the opinions of painters, from the fact that they are creators and not critics, are not of the same importance as those of men who have made art criticism a lifelong study. A critic must be educated in his calling as much as a painter, the latter cannot possess the wide view of the true critic. Yet when he speaks upon a part of the pictorial art which he has made peculiarly his own his words are worthy of respectful attention. It is for this reason that some letters of Gainsborough, which are now for the first time published, are of interest. They are to be found in the third and final volume of the "Dartmouth Papers" recently issued by the Historical Manuscripts Commission.

William Legge, second Earl of Dartmouth, was a man of a versatile mind. He was President of the Board of Trade, and Secretary for the Colonies in the Cabinet of Lord North, a post of high importance; in 1775 he was moved to the honourable but easier office of Lord Privy Seal, which he held till the fall of Lord North's Ministry. But besides being a statesman he was a philanthropist, and a supporter of the Evangelical school in the Church of England, and even of Wesley. He was also a great lover of the arts, a voluminous collector of old masters, and a patron of those of his own age and country. He has passed out of the minds of men, but in his own time "the good Lord Dartmouth," as he was called, occupied a unique and admirable position. It was by his love of art that he was brought into contact with Gainsborough, with whom he was obviously on terms of friendship, for he was not the mere patron of artists. In 1769 it appears that Lord Dartmouth commissioned Gainsborough to paint two portraits of himself and of Lady Dartmouth. Among the MSS. at Patshull the receipt has been preserved; it is dated May 25 of the above year, and is for £126, "in full for two half-length portraits" ("Dartmouth Papers," vol. iii., p. 190). That of Lady Dartmouth appears, however, to have been unsatisfactory, and it was returned by Lord Dartmouth. Thereupon Gainsborough wrote him the following letter. It is clear from it that the painter ascribed his failure, if it was one, or his failure to please his patron, to the fact that Lady Dartmouth had been painted in a fancy costume. Apart, however, from this point, the letter is remarkable for the pleasant and unegotistical way in which Gainsborough takes the return of the portrait. He in no way regards Lord Dartmouth as acting unreasonably. The letter runs as follows:—

1771, April 8. Bath.—"I received the honour of your Lordship's letter acquainting me that I am to expect Lady Dartmouth's picture at Bath; but it is not yet arrived. I shall be extremely willing to make any alterations your Lordship shall require, when her Ladyship comes to Bath for that purpose, as I cannot (without taking away the likeness) touch it, unless from the life. I would not be thought, by what I am going to observe, that I am at all unwilling to do anything your Lordship requires to it, or even to paint an entire new picture for the money I received for that, as I shall always take pleasure in doing anything for Lord Dartmouth; but I should fancy myself a great blockhead if I was capable of painting such a likeness as I did of your Lordship and not have sense enough to see why I did not give the same satisfaction in Lady Dartmouth's picture, and I believe your Lordship will agree with me in this point, that next to being able to paint a tolerable picture is having judgment enough to see what is the matter with a bad one. I don't know if your Lordship remembers a few impertinent remarks of mine upon the ridiculous use of fancy dresses in portraits, about the time that Lord North made us laugh in describing a Family Piece his Lordship had seen somewhere; but whether your Lordship's memory will reach this trifling circumstance or not, I will venture to say that had I painted Lady Dartmouth's picture, dressed as her Ladyship goes, no fault (more than in my painting in general) would have been found with it. Believe me, my Lord, though I may appear conceited in saying it so confidently, I never was far from the mark, but I was able before I pulled the trigger, to see the cause of my missing, and nothing is so common with me as to give up my own sight in my painting room, rather than hazard giving offence to my best customers. You see, my Lord, I can speak plainly when there is no danger of having my bones broke, and if your Lordship encourages my giving still a free opinion upon the matter, I will do it in another line."—[Hist. Manuscripts Comn., 15th Rept., App., Pt. I., p. 193.]

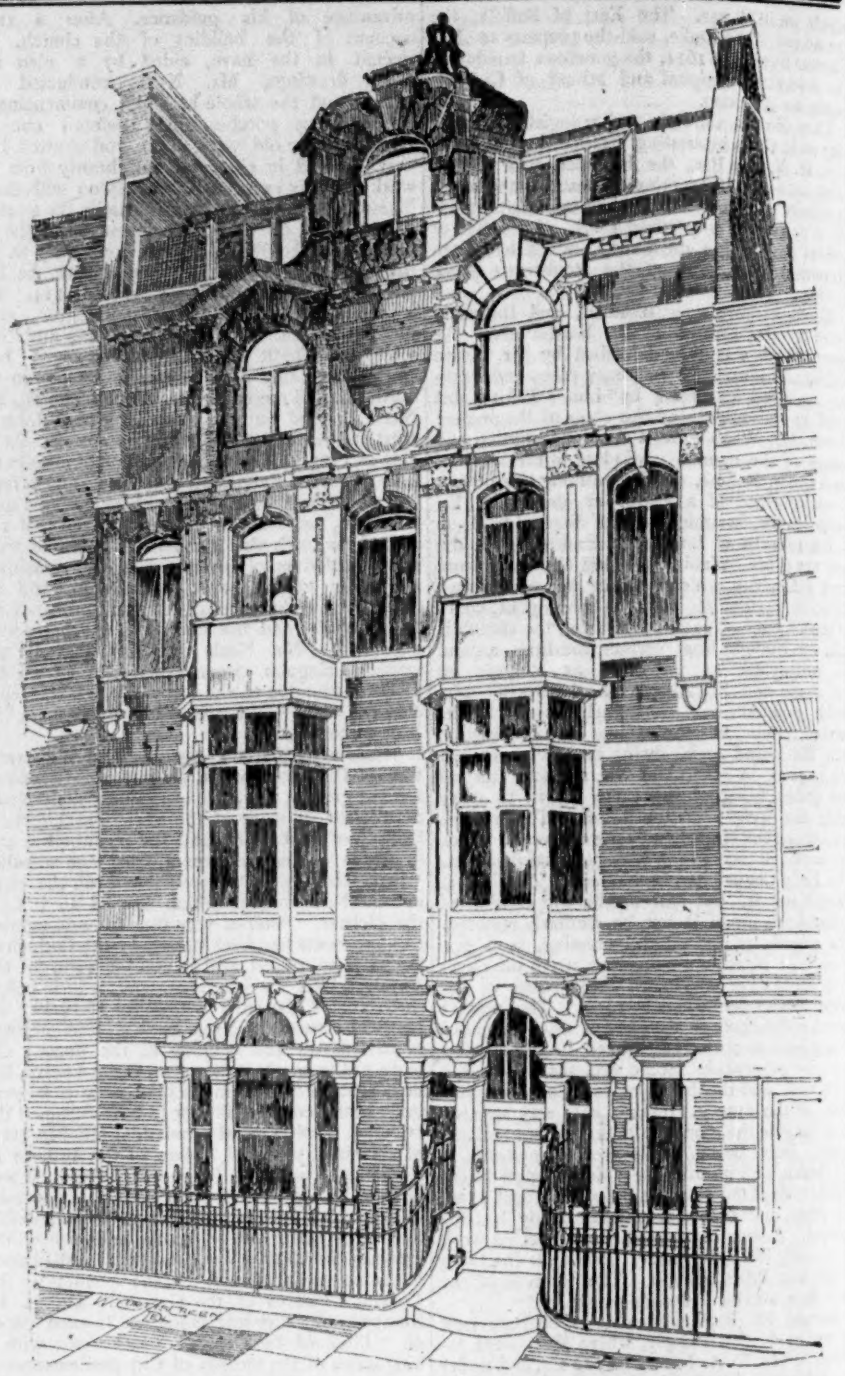
It would seem as if Lord Dartmouth on receipt of this letter had replied with one in which he combatted Gainsborough's views in regard to the effect of costume on a personal likeness. For on April 13 there is another letter from the painter in reply to that which he had evidently received from Lord Dartmouth. In it he recurs, with emphasis, to the same point.

1771, April 13. Bath.—"I can see plainly your Lordship's good nature in not taking amiss what I wrote in my last, though it is not so clear to me but your Lordship has some suspicion that I meant it to spare myself the trouble of painting another picture of Lady Dartmouth, which time and opportunity may convince your Lordship was not the intention, and here I give it under my hand, that I will most willingly begin upon a new canvas. But I only for the present beg your Lordship will give me leave to try an experiment upon that picture to prove the amazing effect of dress. I mean to treat it as a cast-off picture and dress it (contrary, I know, to Lady Dartmouth's taste) in the modern way; the worse consequence that can attend it will be her Ladyship's being angry with me for a time. I I am vastly out in my notion of the thing if the face does not immediately look like; but I must know if Lady Dartmouth powders or not in common: I only beg to know that, and to have the picture sent down to me. I promise this, my lord, that if I boggle a month by way of experiment to please myself, it shall not in the least abate my desire of attempting another to please your Lordship when I can be in London for that purpose, or Lady Dartmouth comes to Bath."

Postscript:—"I am very well aware of the objection to modern dresses in pictures, that they are soon out of fashion and look awkward, but as that misfortune cannot be helped, we must set it against the unluckiness of fancy dresses taking away likenesses, the principal beauty and intention of a portrait."—[Hist. Manuscripts Comn., 15th Rept., App., Pt. I., p. 193.]

It seems doubtful if Gainsborough had yet convinced his patron, for a third letter on April 18 follows, and in it he enters more fully into the reasons why, in his opinion, so much importance was to be attached to the costume of the subject of a picture.

1771, April 18. Bath.—"Nothing can be more absurd than the foolish custom of painters dressing people like scaramouches and expecting the likeness to appear. Had a picture voice, action, &c., to make itself known as actors have upon the stage, no disguise would be sufficient to conceal a person; but only a face, confined to one view, and not a muscle to move to say 'Here I am,' falls very hard upon the poor painter, who perhaps is not within a



Sketches of London Street Architecture.—VI. No. 77, Welbeck-street. Mr. Beresford Pite, Architect.

mile of the truth in painting the face only. Your Lordship, I am sure, will be sensible of the effect of dress thus far, but I defy any but a painter of some sagacity (and such, you see, am I, my Lord) to be well aware of the different effects which one part of a picture has upon another, and how the eye may be cheated as to the appearance of size, &c., by an artful management of the accompaniments. A tune may be so confused by a false bass, that if it is ever so plain, simple, and full of meaning, it shall become a jumble of nonsense, and just so shall a handsome face be overset by a fictitious bundle of trumpery of the foolish painter's own inventing. For my part (however your Lordship may suspect my genius for lying) I have that regard for truth, that I hold the finest invention as a mere slave in comparison, and believe I shall remain an ignorant fellow to the end of my days because I never could have patience to read poetical impossibilities, the very food of a painter, especially if he intends to be knighted in this land of roast beef, so well do serious people love froth. But, where am I, my Lord, this my free opinion in another line with a witness, forgive me, my Lord, I am but a wild goose at best, all I mean is this, Lady Dartmouth's picture will look more like, and not so large, when dressed properly, and if it does not I will begin another.—[Hist. Manuscripts Comn., 15th Rept., App., Pt. I., p. 194.]

It is curious to find a portrait-painter like Gainsborough lay so much stress on mere accessories. A painter, he says, "is not within half a mile of the truth in painting the face only." Yet it is obvious that however much pose or a familiar dress may help to heighten a likeness, it is in the face, and the face only, that the true likeness is to be found. This is exemplified in the common occurrence of a close resemblance being seen between a mother in the forties and a daughter in the teens; both may be dressed in absolutely dissimilar costume, and yet in the two faces the same features will be found. His remark about painters dressing-up people like scaramouches and then expecting the likeness to appear, though it may be true in a sense, reads oddly at a time when painters are so fond of the experiment of painting a friend in some special costume of a past period, and when they do nevertheless succeed in "making the likeness appear." The conclusion seems forced upon us that portrait-painters in the present day give closer attention to the detail of the sitter's countenance than was the custom in Gainsborough's time.

SKETCHES OF LONDON STREET ARCHITECTURE.—VI.

House in Welbeck-street.

MR. BERESFORD PITE, ARCHITECT.

This house, designed by Mr. Beresford Pite, forms No. 77 Welbeck-street. The carving was executed by Messrs. Farmer & Brindley from the architect's sketches, and the general building work carried out by Messrs. Adamson of Chiswick.

WARLINGHAM LUNATIC ASYLUM COMPETITION.

Owing to the very short notice we received of the exhibition of these competition drawings our remarks are necessarily rather curtailed, and are confined entirely to the three premiated designs.

The competition is in some respects a remarkable one, and does great credit both to the competitors and to the committee who drew up the rules of the competition; in few recent competitions have the regulations been so rigidly adhered to, and it speaks well for the perfection to which the science and art of planning lunatic asylums has arrived when we get the first three designs in a large competition so remarkably alike in general and detailed arrangements of the various departments and offices. The first premium has been gained by Messrs. Crisp, Oatley, and Skinner, of Bristol, with what is undoubtedly a very strong plan. Messrs. G. T. Hine and E. H. Pritchett, of London, have obtained the second premium, and probably ran very close for the first place; the third place has gone to Mr. G. Hurst Stanger, of Wolverhampton.

The asylum is to accommodate 200 male and 200 female patients immediately, but the administrative offices and the laundry are to be of sufficient size for 600 patients, and the wards planned so that the buildings first erected need not be disturbed when the asylum is enlarged for this number of patients. It would be interesting to see the report of the assessors. The striking likeness between the three designs until we get clear of the body of the building, and the rigid adherence to the printed regulations, must have made the decision more than a usually difficult one. In all three designs the entrance through the official block leads straight to the recreation hall; this is backed by the kitchen and the usual offices; corridors to the right and left of the recreation hall lead to the administrative portion of the building. The chapel in each design is placed north-east of the main building, and it is not until we get away to the wings and outside offices, such as workshops, that there is any striking dissimilarity between the designs. We prefer the arrangement of workshops and outdoor offices adopted by the first design; they are better adapted for their purposes, nor do they open so much into the main portion of the building as is the case in the two other designs. The second design is more compact in plan, and would probably be a less expensive building than the first. Messrs. Crisp, Oatley, & Skinner have decided on large airy courts, at the expense of economy of material. This certainly is an advantage to the appearance of the building. The position of the Isolation Hospital in all three designs is almost identical; the first design has divided this building into three distinct parts forming a triangle, connected by covered ways; the administrative block is nearest to the main building, and the blocks for male and female patients are rather beyond on the right and left-hand side. We notice the authors of the first and third premiated designs openly avow their intention of using the large recreation hall as a dining room; this is subject to many difficulties, and Messrs. G. T. Hine and E. H. Pritchett have considered the advisability of using the day rooms for this purpose.

The detail drawings are not very interesting. In the second design we have some crudely-coloured constructional details; in the first rather more carefully-thought-out details of the chapel and recreation hall.

The elevations seem to have occupied little or no thought in the minds of the architects. Possibly the third design is the least disagreeable. Surely it is possible in so large a block of buildings to obtain more architectural effect without necessarily increasing the expense.

ARCHÆOLOGICAL SOCIETIES.

The Newcastle Society of Antiquaries. On September 21 a number of members of the Newcastle Society of Antiquaries made an excursion to Haydon Bridge, Langley, Staward-le-Pele, Allendale, and Allenheads. The party were under the guidance of Mr. Robert Blair. The old castle of Langley is of historic interest, having been built about the year 1350 by Sir Thomas de Lucy, on the site of the older residence of the Tindals, to protect his property from the ravages of the Scots. Tomlinson, in his "Handbook of Northumberland," says:—"It passed successively into the hands of the Umfravilles, the Percys, the Nevilles, and the Radcliffes. To Sir Francis Radcliffe, who purchased it in 1632, the barony gave the title of Viscount and Baron Langley. Forfeited to the Crown, like the rest of the Derwentwater property, after the ill-starred rising of 1715, Langley was eventually settled, in 1749, on the Governors of Greenwich Hospital." Staward-le-Pele was next visited, the farmhouse of Low Staward being passed *en route*, which place was formerly an old manor house. What little remains of the famous pele—a Celtic word for stronghold—is highly interesting. By careful observation, Mr. C. C. Hodges found that a large number of the stones used in the building of the pele were of Roman origin. In August, 1885, he observed a Roman altar in the upper portion of the ruin. At that date Mr. Hodges said:—"It was in fair state of preservation, one side only was visible, and this was ornamented with a carving of a bull's head in relief, the mouldings were bold and of refined character; the focus was not visible in the present position of the altar. Other Roman stones in the same building show sunk panels, smoothly dressed surfaces, cramp holes, and excellent specimens of broached tooling. The nearest Roman stations to Staward Pele were Vindolana, Borcovicus, and Whitley Chapel, which are distant four, five, and ten miles respectively as the crow flies." Holy Trinity Church, Whitfield, built in the year 1860, was next visited. A Gothic spire rises to the height of 120 ft., lighted by several stained-glass windows, and inscribed to the memory of the Ord and Hamilton families. The Communion-table belonging to the church is of Elizabethan design. On leaving Whitfield the drive was continued past Parmently Hall to Ninebanks, where an old pele tower was examined. Mrs. Coulson, a resident, submitted for inspection several Roman relics, including coins, a key, an ornament, and some beads, the whole of which had been found about Whitley Castle, near Alston. Leaving Ninebanks the party proceeded to Allendale Parish Church, which is of comparatively modern date, and the day's excursion was brought to an end.

Bristol and Gloucestershire Archæological Society.—The autumn meeting of this Society was held at Cirencester on September 24, about fifty members being present. The revised code of rules adopted at the Monmouth meeting were confirmed. After some members had visited the Corinium Museum (under the guidance of the curator, Mr. C. Bowley), Mr. Wilfred Cripps's Museum, and the parish church, a carriage excursion followed, the Rev. W. Bazeley, the general secretary, being the guide. Daglingworth was then visited. Some curious rude sculptured tablets, of Saxon-Celtic origin, were explained by Mr. Bagnall Oakeley. Driving to Sapperton, the Church of St. Kenelm, rebuilt by the Atkyns family in the first decade of the eighteenth century, was inspected. After a glance at Trewsbury Roman camp, Mr. Biddulph, M.P., received the party at Bullasey Wood, supposed to be the site of a Saxon village. Some thirty buildings have been traced in this wood, and four of them have been excavated. The party returned from Kemble station.

COMPETITIONS.

Blackpool Theatre Competition.—The Directors of the Lane Ends Estate Co., Blackpool, have had under consideration the designs submitted by three architects, Mr. Phipps, Mr. Matcham, and Messrs. Wylson & Long, each of whom were given a fee as honorarium for sending in competition schemes. The Directors have selected the designs of Messrs. Wylson & Long, who have, therefore, been appointed architects for the carrying out of the works.

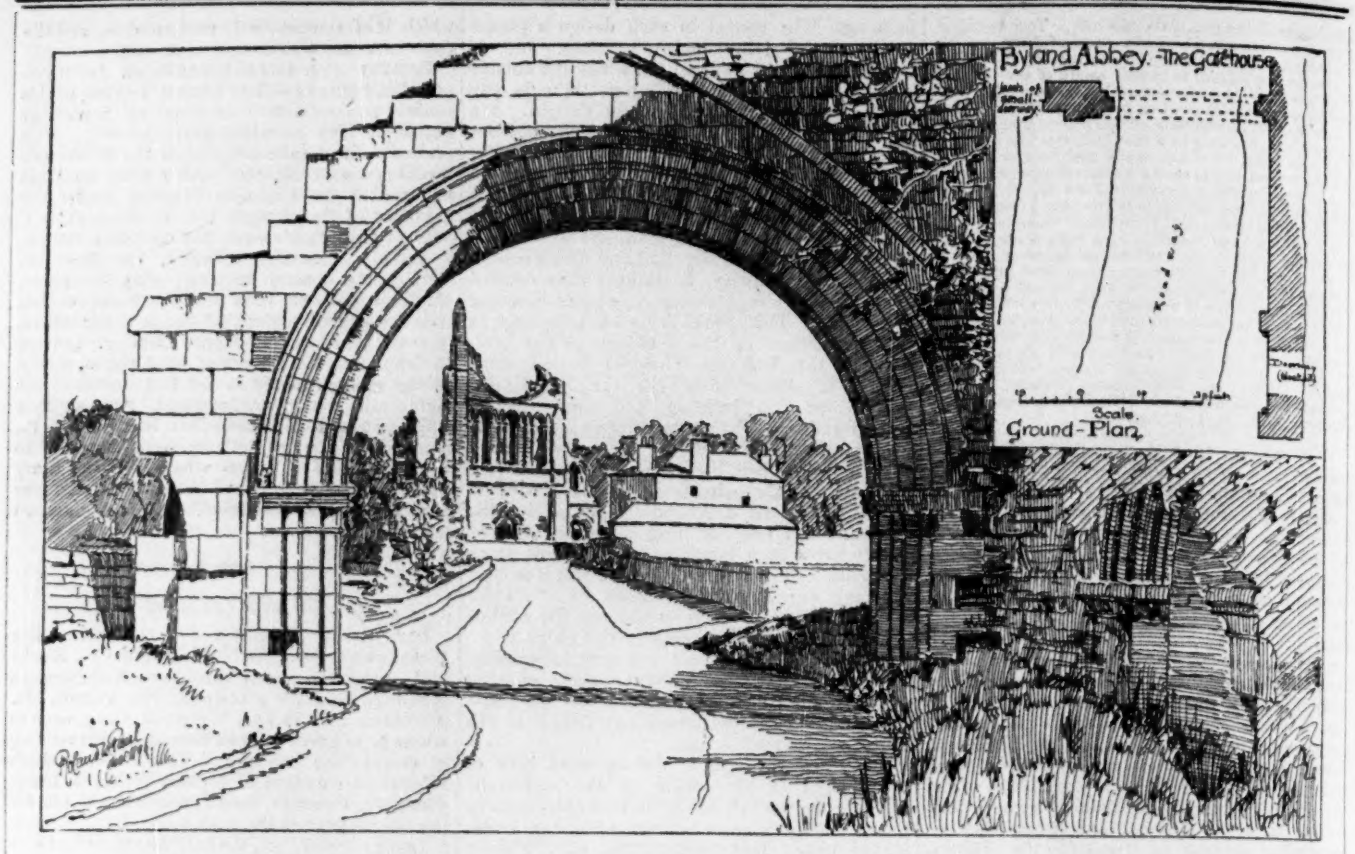
Lunatic Asylum, Warlingham, Surrey.—The successful competitors in this case are:—1st premiated design (200*l.*), Messrs. Hy. Crisp and Oatley and W. S. Skinner, Scottish Provident Chambers, 27, Clare-street, Bristol; 2nd premiated design (100*l.*), Messrs. G. T. Hine and Ellis Pritchett, 35, Parliament-street, S.W.; 3rd premiated design (50*l.*), Mr. Geo. Hurst Stanger, Queen's-chambers, North-street, Wolverhampton.

Design for Drinking Fountain.—In regard to the designs sent in competition for a Drinking Fountain, advertised in our columns some weeks since, we are requested by the advertiser to say that the delay in coming to a decision (about which several competitors have written to us) is owing to the designs having to be submitted to the Corporation authorities, who only meet occasionally. The decision will be announced as soon as it can be settled.

ARCHITECTURAL SOCIETIES.

Glasgow Architectural Association.—On Tuesday, the 22nd ult., Mr. F. H. Newbery delivered a lecture at the rooms, 187, Pitt-street, entitled, "The Sum of Tradition." "We," the lecturer said, "are students, chosen by ourselves to become workers and artists. We are heirs of tradition—are born into it—and must exhaust it before we can give to the world that something which it is in our power to bestow. One of the sums of tradition possessed by the Greeks was that they knew the human figure and recognised its value in architecture. All great artists are great assimilators. Michelangelo possessed this quality in the fullest degree. Don't be afraid of being considered eccentric or insane. The men who think in front of the rest of the world are firmly believed to be mad. Tradition is to an artist what money is to a millionaire. Wealth is very necessary to the artist, as he is in the power of the man who possesses it. There is too much respect paid to riches and to tradition. No architect can design properly till he has learnt to do without moulding existing authorities. Some of the work at our English cathedrals was designed by men who carried their knowledge at their fingers' ends. Tradition to-day is too near. The sketch-book is too easily referred to, the photograph too much utilised, and the plaster cast is simply a text without a sermon. Let us then endeavour to learn what tradition is, and what it means, and, having learnt this lesson, accept its responsibilities accordingly."

Mission Hall, Worcester. — On September 25 the Mission Hall erected by the Railway Mission in East-street, Arboretum, was opened. Messrs. Bromwich & Evans were the builders, and ssrs. Yeates & Jones the architects.



Illustrations.

BYLAND ABBEY.*

THE Abbey of Byland originated in a convent of thirteen monks from Furness Abbey, who in 1134 established themselves at Calder in Coupland, and after various vicissitudes were settled in 1143 at Old Byland, near Rievaulx, on the banks of the Rye, by the munificence of Roger de Mowbray. The founder's intention was for the abbey to be so placed on the south side of the Rye that the river might serve it as it did the Rievaulx monks on the other side. But the site did not lend itself to this, and the nearness of the two houses would not allow it, for already each convent declared it could hear the bells of the other at every hour of the day and night, "which was not decent, nor could it in any wise be long endured." Considering that the abbeys were about two miles apart, and that they followed the same Rule, and it is to be presumed kept the same hours, the complaint as to the bells does not seem a strong one. The Byland monks, however, thought it justified their removal, and after a sojourn there of five years, reduced Old Byland to a grange, and established a new abbey about a mile away at Stocking. Here they built a small stone church, a cloister, and other houses and offices, and abode for thirty years. Finally, having drained the marsh-land in the valley in the east part of their territory they built for themselves there a large and beautiful church and monastery, whither they removed in 1177.

The abbey of Byland, like all the houses of the Cistercian order, to which it belonged, was dedicated in honour of the Blessed Virgin Mary. It was surrendered on the 30th of November, 30 Henry VIII., by the abbot and twenty-four other monks (of whom twenty were priests), when its annual value was estimated to be 238*l.*

As compared with Fountains, Rievaulx, Kirkstall, Furness, and even Jervaulx, the remains of Byland Abbey are but scanty. Indeed, with the exception of the west end and part of the outer walls of the church, and a fragment of the gatehouse, there is little standing save a few ruined walls. So far as it can be made out, the general arrangement of the monastery was quite normal, the open nature of the site rendering unnecessary the somewhat cramped disposition of the outlying buildings seen at Furness and, to a lesser extent, at Fountains. The position of the abbey is characteristic of the Cistercians, in a pleasant valley beneath the shelter of the Hambleton Hills, about two miles from Coxwold station.

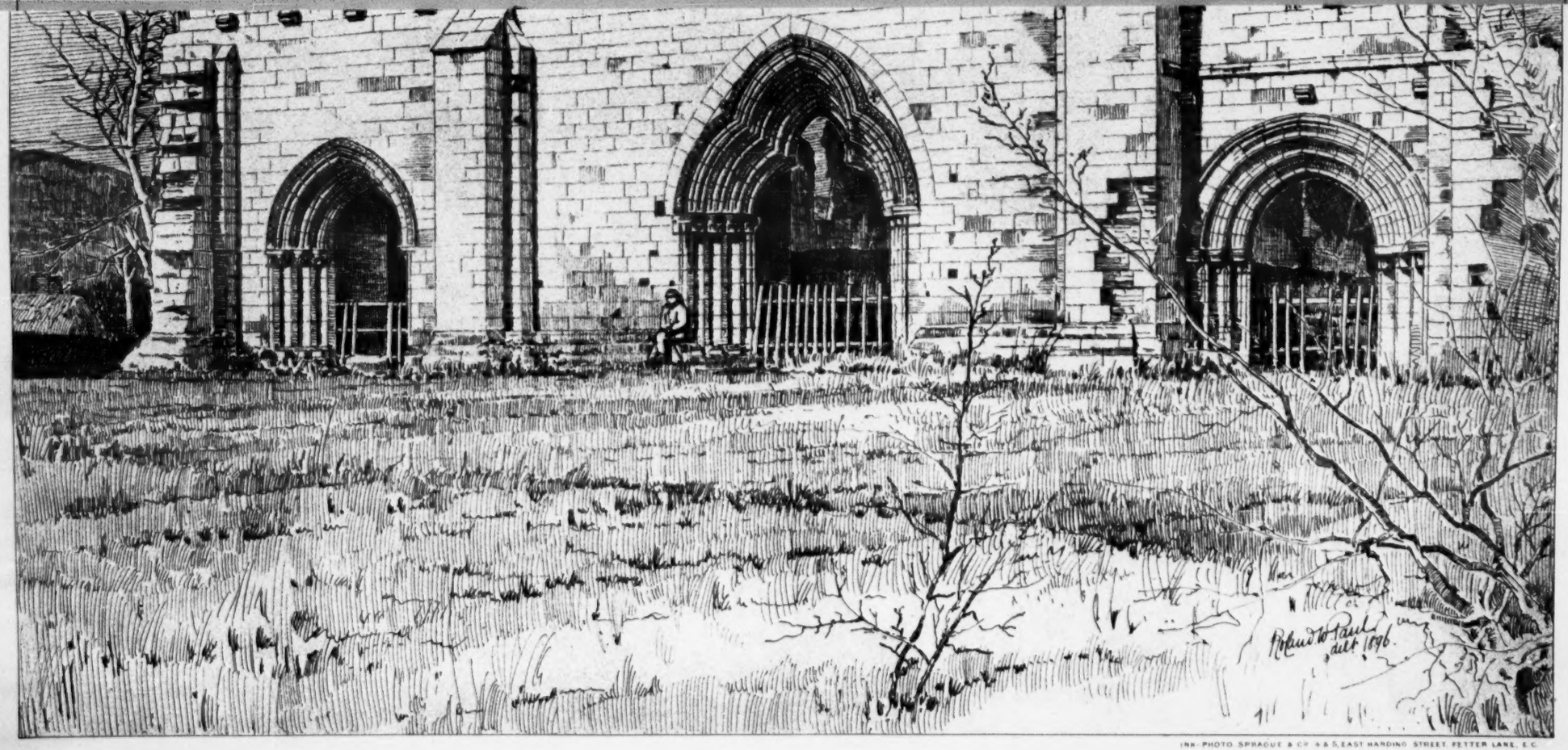
The church was about 330 ft. long. In plan it consisted of an eastern arm of three bays, with eastern and side aisles, a central tower, north and south transepts, each of three bays with eastern and western aisles, and a nave and aisles of twelve bays. In area and general proportions it exceeded every other Cistercian church in this country, and until the rebuilding of the presbytery and addition of the Nine Altars at Fountains, and the extension of the choir of Rievaulx (probably

from rivalry of Byland), it was also the longest. The destruction of the church has unfortunately been so great that not one pillar out of the original forty-two is standing, and the whole area is covered with huge mounds of fallen material to such an extent as to bury everything within the walls. Tentative excavations have laid bare the few bases shown black on the plan, but no systematic clearance has been made.

The west end, as will be seen from Mr. Paul's admirable drawing, is a very curious composition. The lowest stage of the central portion is quite plain, save for a richly-moulded trefoil-headed doorway. Above this is a row of moulded corbels, that extend across the northern section, which has also a doorway of some pretensions. The southern section is somewhat earlier than the rest, and has a wide doorway of three orders with a row of corbels immediately over it, and, above, a handsome window of the same date as the rest of the front, which lighted the end of the aisle. There was no window to correspond at the end of the north aisle. The rows of corbels show that there existed at Byland, as at Fountains and Rievaulx, the curious shallow western porch, extending across the front, which was peculiar to the Cistercians and Cluniacs. Here it was known as the Galilee, and, probably, like the Fountains example, had stone walls and an open arcade on the west. The sloping pentice roof, of course, rested on the corbels. The roof of the part crossing the south aisle seems to have been flat. Above the Galilee roof rose the second or main stage of the front, which is pierced by three lancet windows, each flanked by two acutely-pointed arches, the whole forming a continuous arcade enriched with dog-tooth ornament. The shafts here, as throughout the church, have square abaci. The uppermost stage of the front contained an enormous circular window,* filling almost the entire gable, and flanked by octagonal pinnacles, one of which remains. The half of the window that is left is enriched with dog-tooth and other ornament, but there is nothing to show how it was filled up or subdivided. Internally the doorways of the front have pointed rearvaults, and between the west windows of the nave rise groups of triple shafts which were perhaps intended to carry an arcade in front of the great wheel window. Although the arcades and all above them have gone, enough is left on the west end and south transept to enable the general design of the church to be made out. The pillars were clustered, and supported pointed arches, above which rose a triforium with blind wall arcade, and a clearstory with open wall gallery. The clearstory windows were single lancets forming externally one of a set of five arches in each bay and internally one of three. The central portions of the church had wooden ceilings only, but the aisles were vaulted throughout, with pointed and ribbed vaults resting along the side walls on triple vaulting shafts carried by rich corbels. The aisle windows were round-headed, with external jamb shafts. In the eastern part of the church the inner arch is moulded, but in the north aisle of the nave, except in the first two bays, it was plain. Above the aisle windows was a corbel table carrying the parapet. In the transepts, the side walls of the presbytery, and

*The series of the "Abbeys of Great Britain" is continued this month with illustrations of "Byland." The next of the series (Great Malvern) will appear in the number to be published on January 2, 1897.

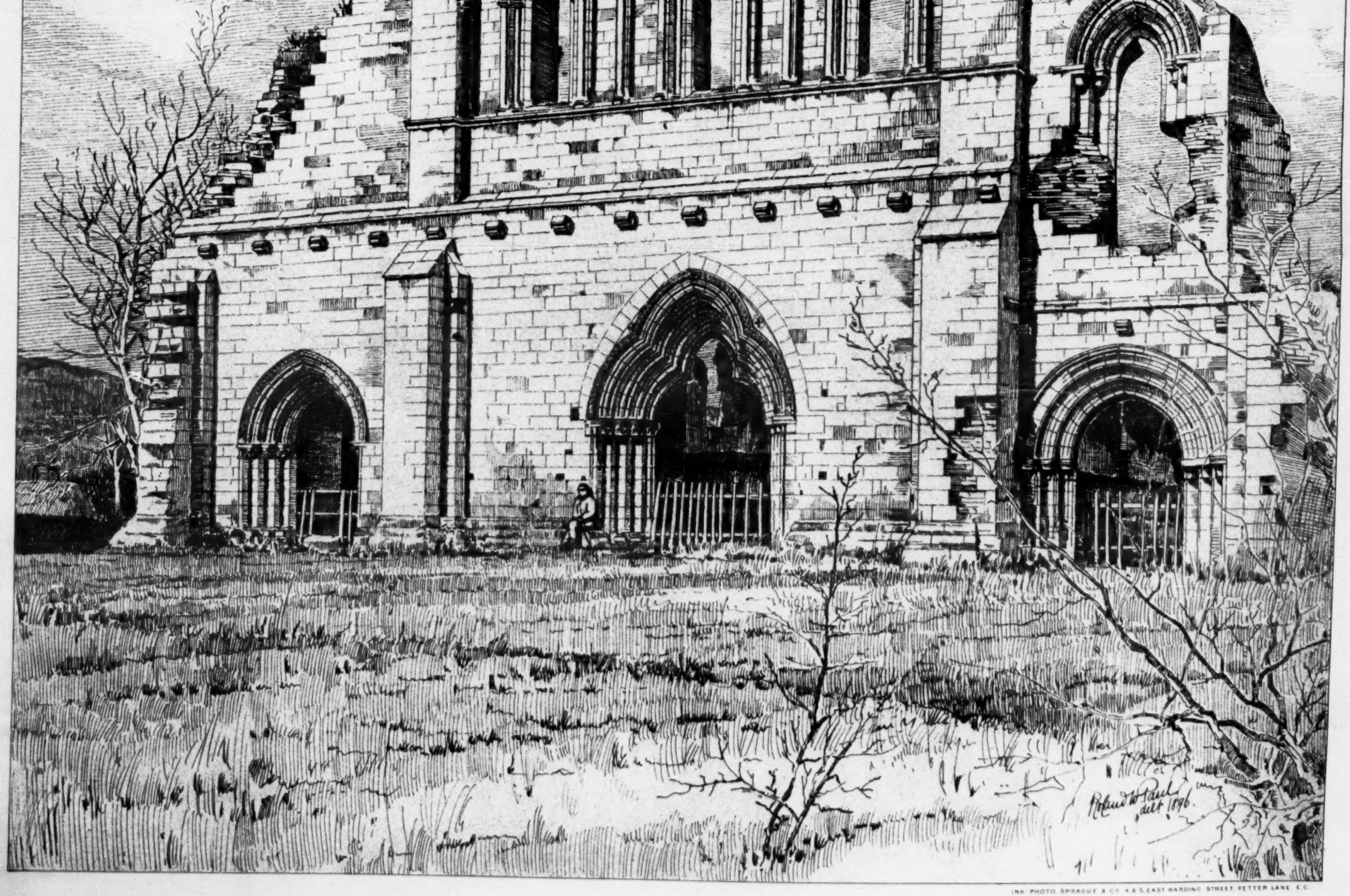
* If Buck's view may be trusted, the eastern gable of Kirkham Priory church was filled by a similar window.



INK-PHOTO SPRAGUE & CO 4 & 5 EAST HARDING STREET FETTER LANE E.C.

THE ABBEYS OF GREAT BRITAIN. No. 19. BYLAND.

Drawn by Mr. Roland W. Paul.



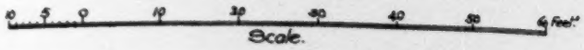
INK-PHOTO. SPRAGUE & CO. 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

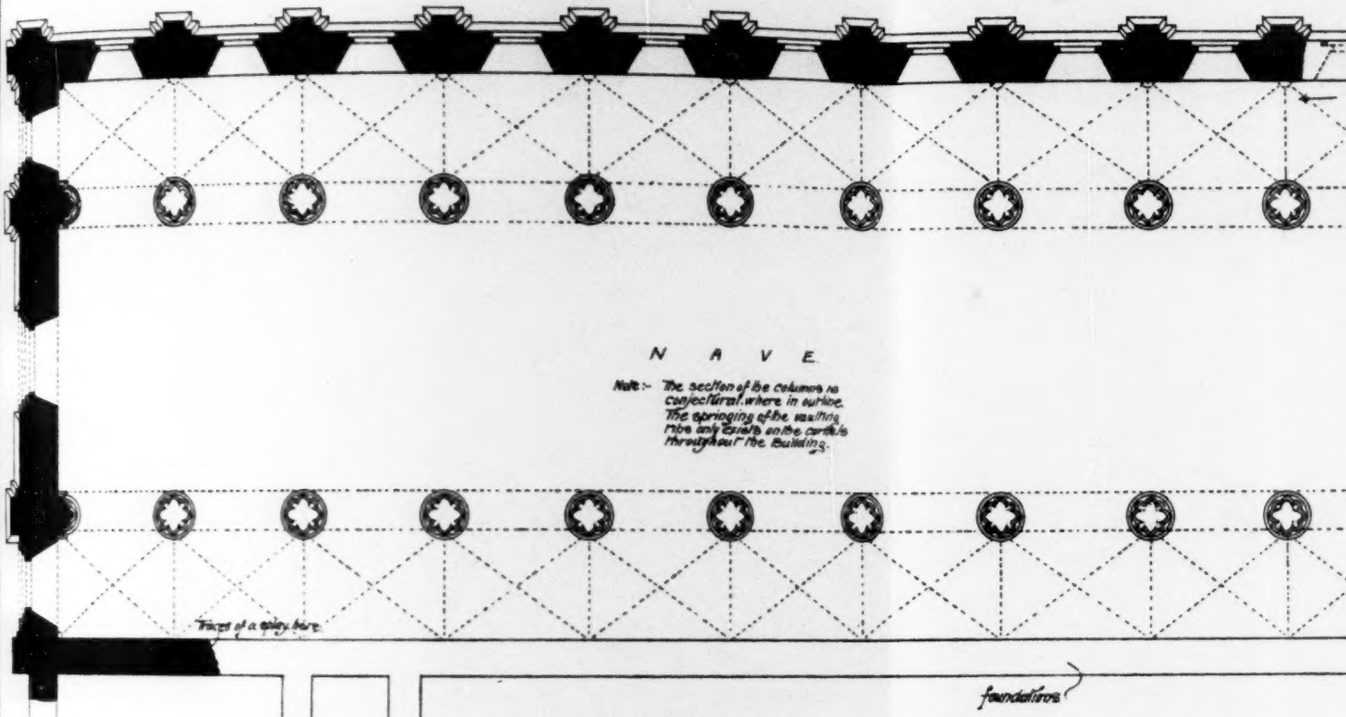
THE ABBEYS OF GREAT BRITAIN. No. 19. BYLAND.

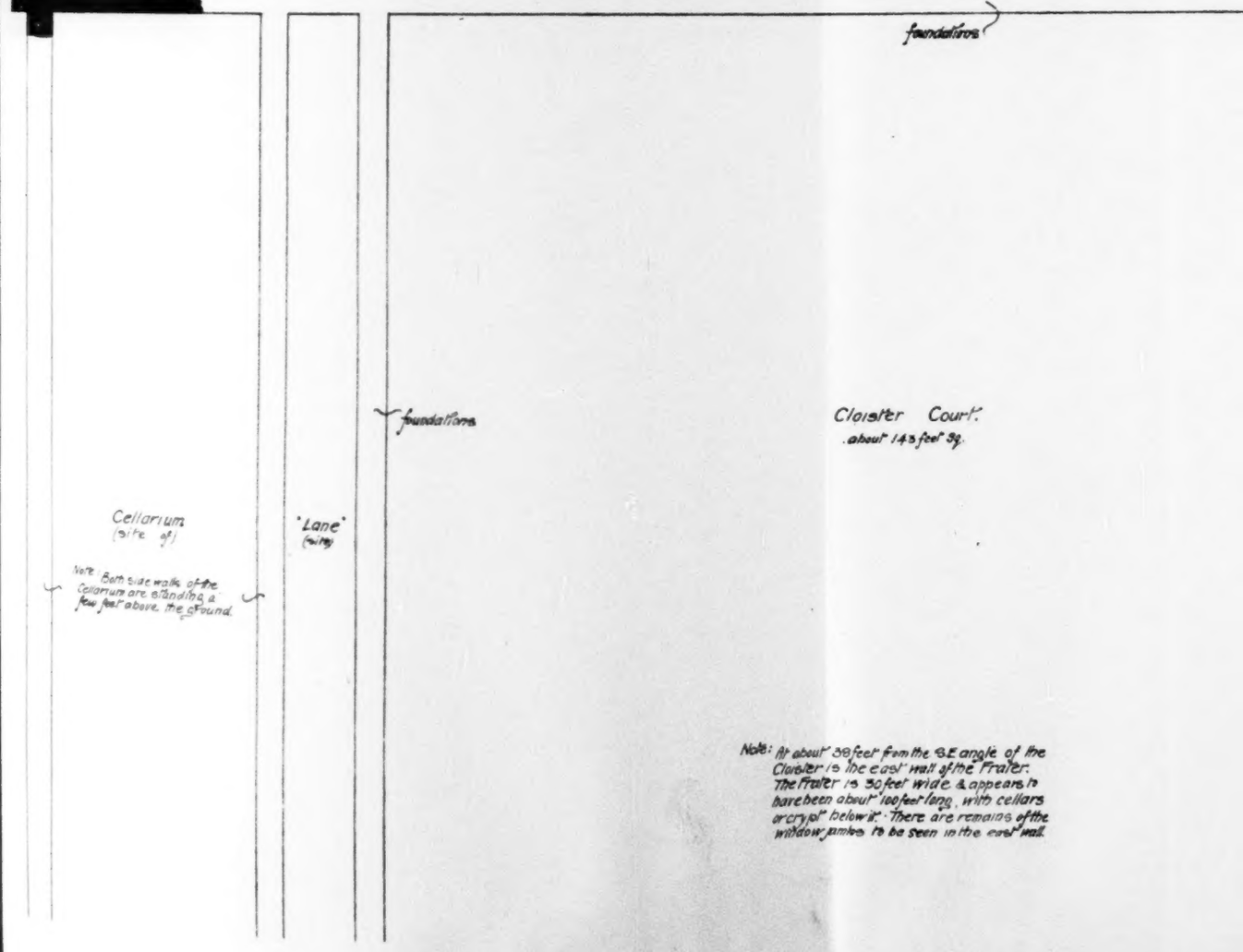
Drawn by Mr. Roland W. Paul.

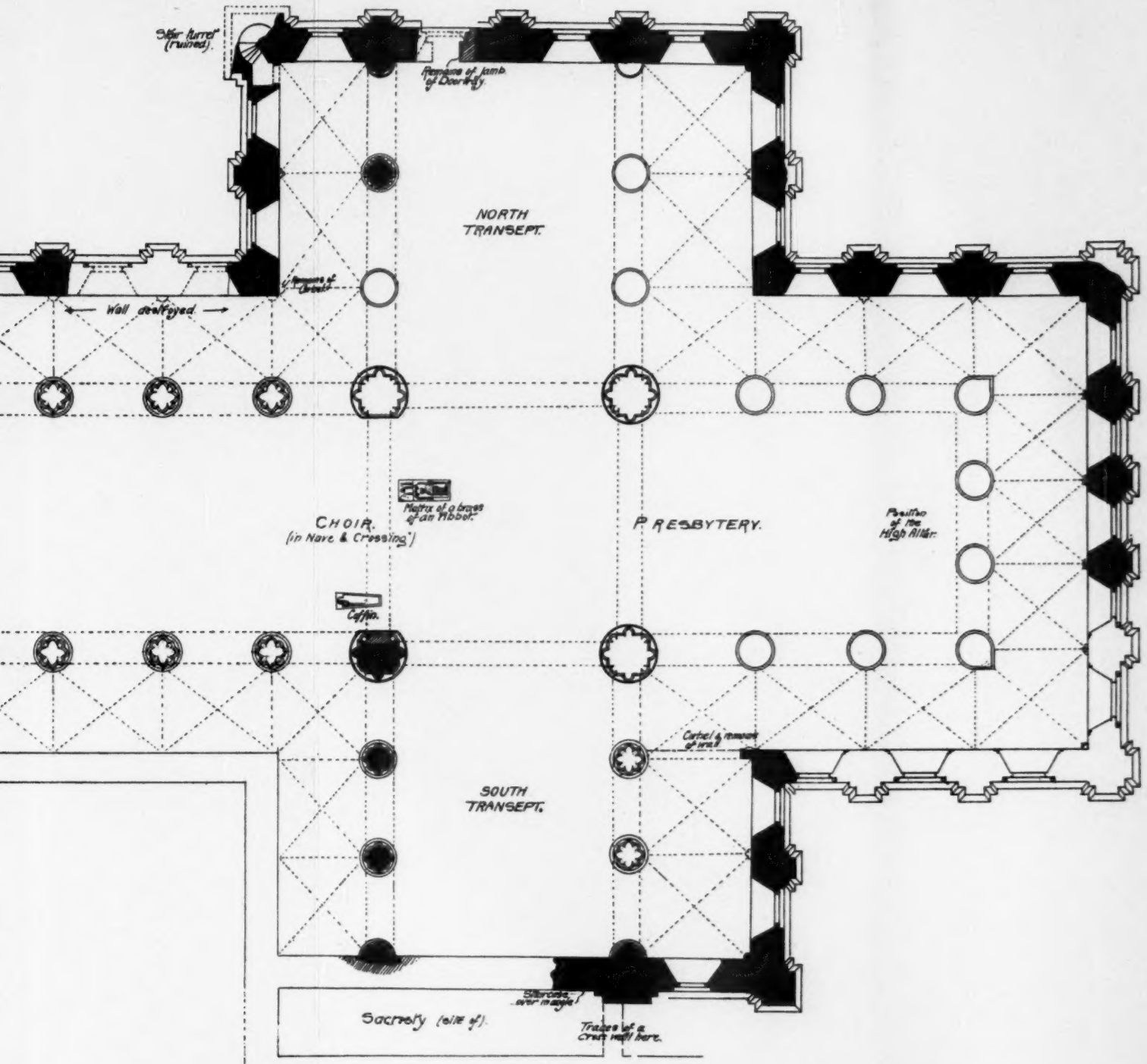
BYLAND ABBEY.

GROUND PLAN.




N A V E
Note:- The section of the columns is conjectural, where in outline. The springing of the vaulting ribs only exists on the corbels throughout the Building.
Traces of a gallery here.

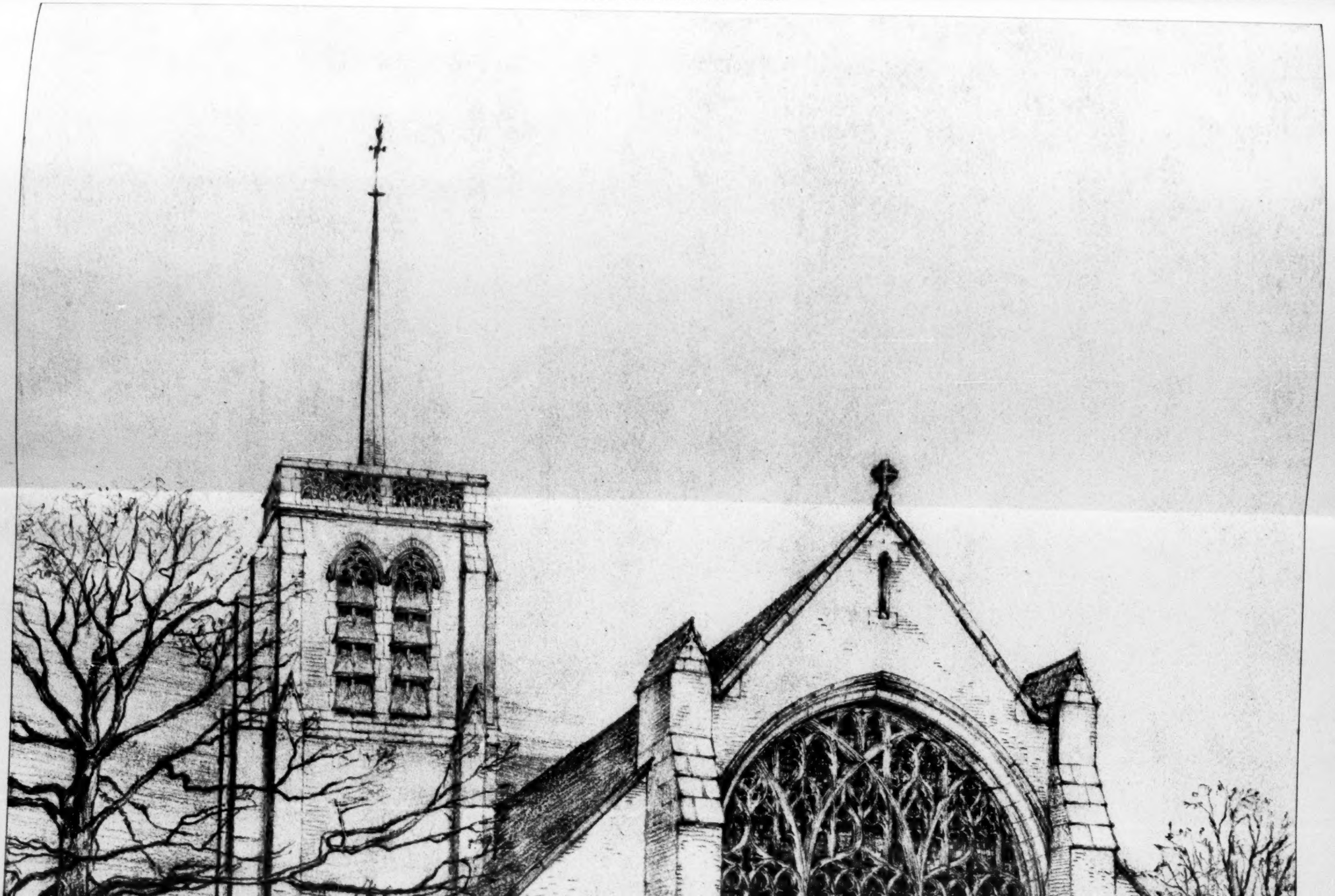

foundations
foundations
Cloister Court.
about 143 feet Sq.
Cellarium
(site of)
Note: Both side walls of the Cellarium are standing a few feet above the ground.
"Lane"
(Public)
Note: At about 38 feet from the S.E angle of the Cloister is the east wall of the Frater. The Frater is 30 feet wide & appears to have been about 100 feet long, with cellars or crypt below it. There are remains of the window jambs to be seen in the east wall.



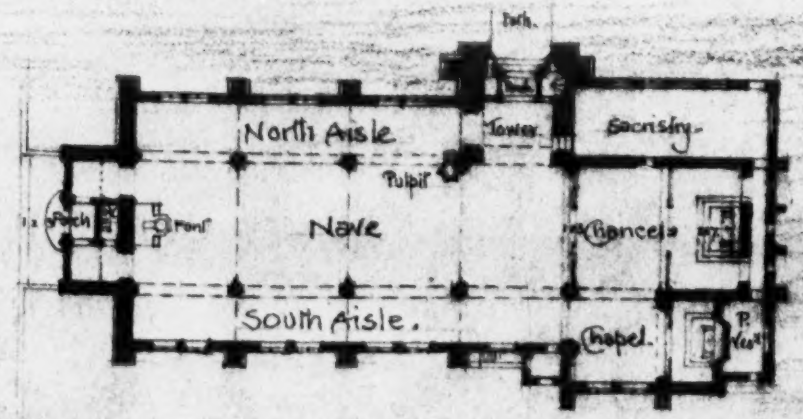
Note: The ground here & for some considerable distance south is covered with remains of the foundations of the monastic buildings. In the extreme S.E. corner of the site are remains of probably the Infirmary.

Richard Paul
Hon. Sec. Oct. 1896.

PHOTO-LITHO. SYRACUSE & Co. 43 EAST HARDING STREET, FETTER LANE, E.C.



CHURCH OF SAINT BARTHOLOMEW
· IPSWICH: N.W. VIEW. C·SPOONER, R.A.rchr

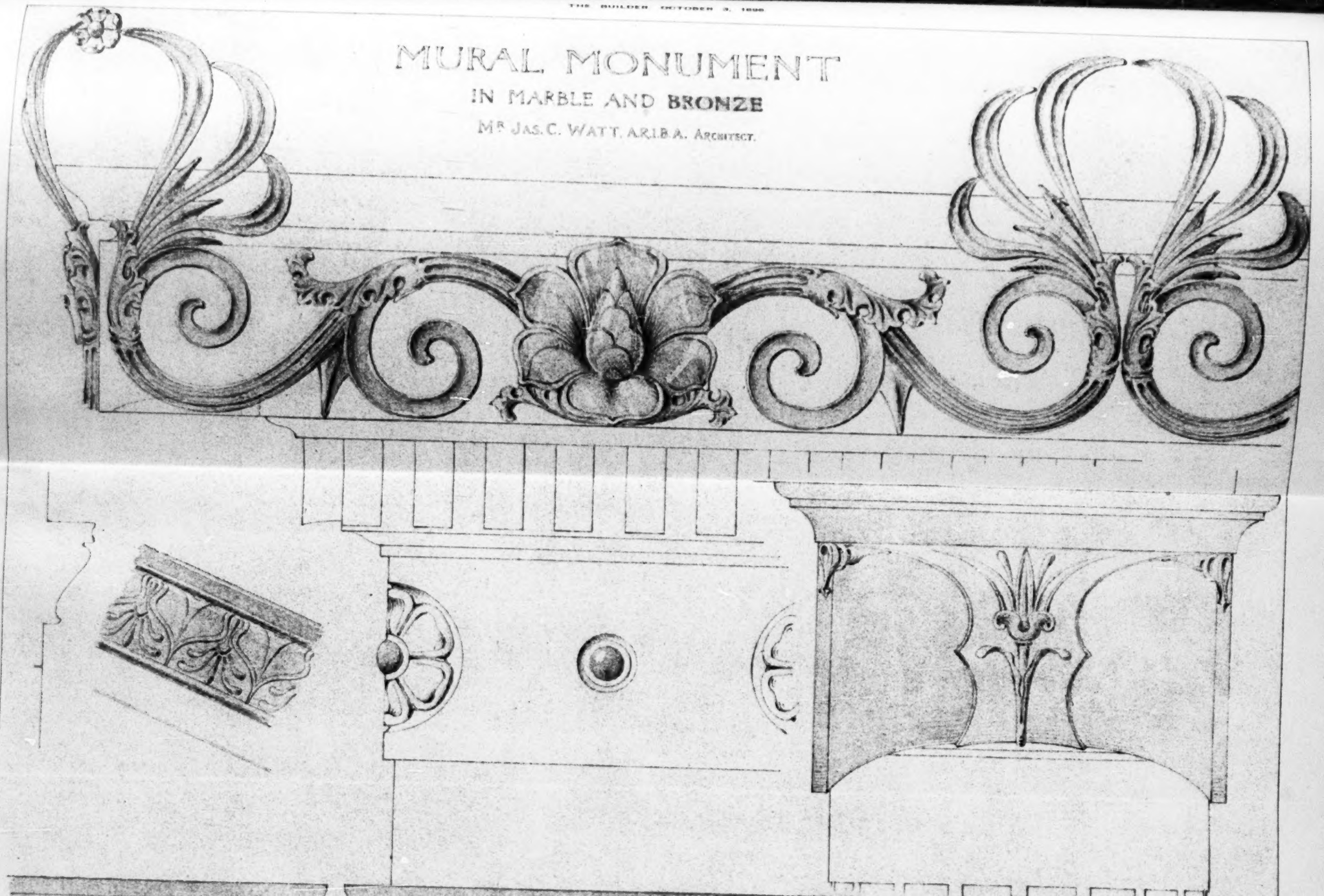


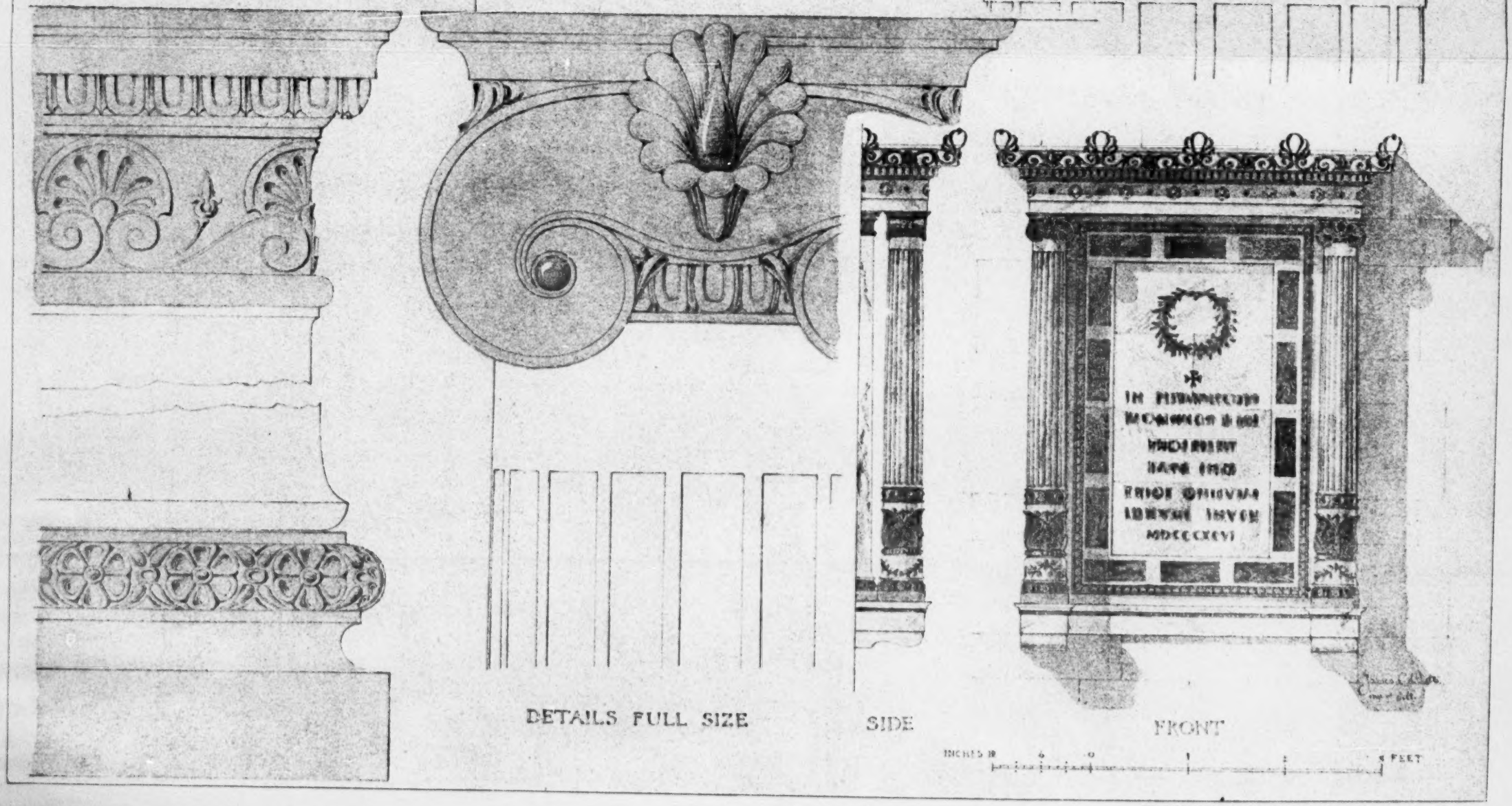
INA-PHOTO SPRAGUE & CO 44 EAST HARDING STREET E.C. TUDOR LANE E.C.

MURAL MONUMENT

IN MARBLE AND BRONZE

Mr Jas. C. Watt, A.R.I.B.A. Architect.





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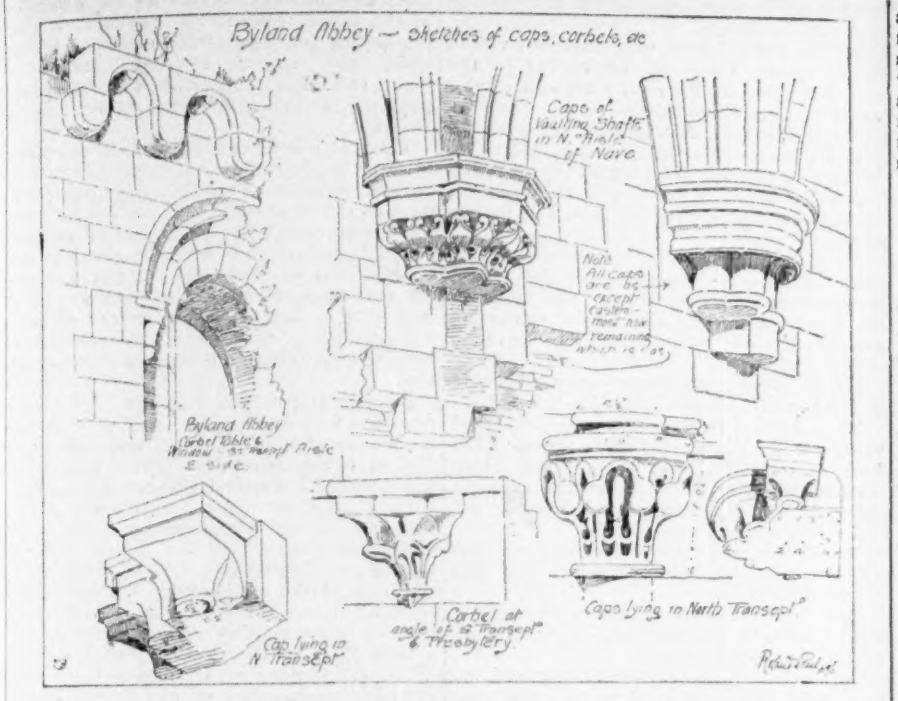
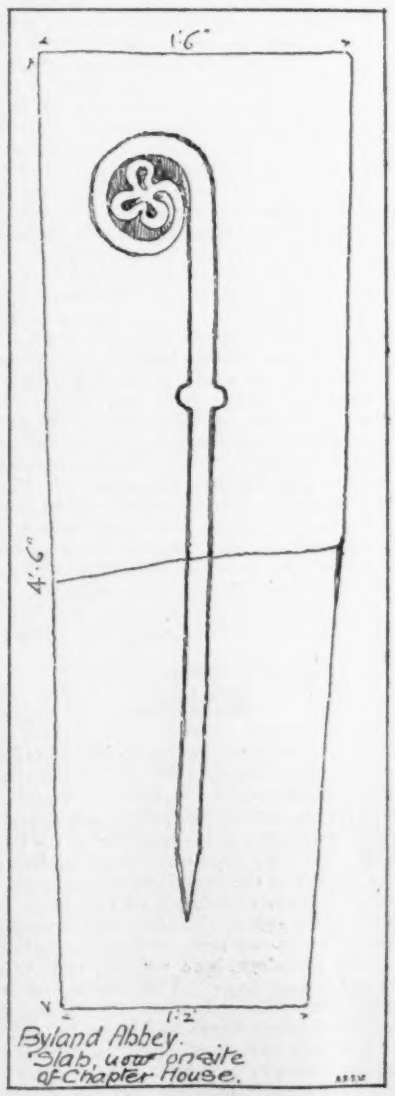

Byland Abbey — sketches of caps, corbels, etc
Caps of vaulting shafts in N. aisle of Nave
Note All caps are bc except Eastern most two remaining which is fl
Byland Abbey
Corbel Table & Window in 1st bay of N. aisle E. side.
Cap lying in N. Transept
Corbel at angle of N. Transept & Presbytery
Caps lying in North Transept

the first three bays of the north aisle, this corbel table is plain in character and quite Norman in design, but in the western bays of the nave and the eastern aisle of the presbytery the corbels are moulded and of a different pattern. From these and other variations, besides those already noticed, such as the substitution of a plain for a moulded abacus in the aisle windows, and a difference in the plan and capital of the vaulting shafts, it is clear that, although at first sight the church is of one date, it is actually of two dates, with a very small interval between. So far as can be now made out, the south aisle of the nave, the transepts, the presbytery and its side aisles, and the first three bays of the nave formed the first work, followed, after a short pause, by the completion of the eastern aisle, and of the rest of the nave, with the west front. The upper stages of the church throughout probably belonged to the second period. There is now nothing of the south aisle above ground save the westernmost bay, but the junction of this with the central section of the west front, and the fact of its forming one side of the cloister proves that it was one of the earliest parts built. Of the arrangements of the church nothing definite can at present be said. The monks' choir, as is shown by the plan of the western piers of the crossing, extended down the nave, probably for three bays; while the western part, as usual, was the choir of the *conversi* or working brothers. The base of the stone screen wall between the piers, against which their stalls stood, may still be seen in the last bay of the north aisle, where it was pierced by a door.

Of the monastic buildings little can be said, so buried are their remains beneath mounds of fallen material. The cloister lay on the south of the nave and was about 143 ft. square. On the east side of it, next the transept, were the vestry, chapter-house, parlour, passage to cemetery, &c. and the dorter sub-vault, with the dorter above them. On the south were the warming-house and kitchen, with the frater between them. Of this the side walls are standing to some height. It seems to have been one of the early buildings of the abbey, and to have had beneath it a cellar or sub-vault, an unusual feature seen elsewhere only at Rievaulx, where it is due to the fall of the ground. Here the site is level, but the nearness of the stream may indicate a desire to keep the frater floor above the reach of floods. On the west side of the cloister are the remains of the great *cellarium* where the *conversi* were lodged. As at Kirkstall, Clairvaux and Citeaux, and originally at Fountains, it is separated from the cloister by a narrow lane or alley, which also extended beyond the kitchen. Of the infirmary, abbot's lodging and other outlying buildings, nothing is to be seen except a tantalizing range of mounds to the east of the claustral buildings. The buildings in the outer court have likewise perished, but there are some interesting remains of a fine twelfth century gate-house to the west of the church, and outside it parts of the *capella extra portas*, as at Rievaulx, Fountains and Furness.

Although, as will be gathered from the foregoing notes, the remains of Byland Abbey are not extensive, the ruins of its magnificent late twelfth century church are well worth a visit, and it is quite possible for the architectural student to reconstruct the design on paper.



The site has lately passed into the possession of Sir George Wombwell, Bart., who has begun some judicious repairs on the north side. The ruins are, however, much encumbered with that destructive agent, the ivy, which should be ruthlessly destroyed, and as already noticed the area is sadly encumbered by the ruins of the fallen arcades, &c. Were this accumulation gradually removed, fallen stones replaced where possible, and the floor-level laid with turf, Byland Abbey would become a thing of beauty, instead of being, as now, a hopeless ruin. The removal of the rubbish should, of course, be extended to the monastic buildings, which were evidently on a scale commensurate with the great church.

W. H. ST. JOHN HOPE.

CHURCH OF ST. BARTHOLOMEW, IPSWICH.

OWING to the absence of the architect from home at present we are unable to give any practical details as to the materials and construction of this church, the drawing of which was exhibited at the last Royal Academy.

The plan explains itself; the treatment of the west end, the portion principally shown in the illustration, exhibits considerable originality, and the contrast between the plain massive buttresses and the rich traceried window between them, the arch mouldings of which abut against the buttresses, goes to form a good example of character in architectural design.

DESIGN FOR A MURAL MONUMENT.

THE drawing of which we give a reproduction was exhibited this year at the Royal Academy, and represents a design for a mural monument or tablet of Classic type. Such monuments, it is needless to observe, are common on the walls of Mediæval churches, where they have been put up generally in the eighteenth century, and the general type of design in this case, the inscribed tablet with a small column on each side and a cornice over, is frequently found. In this design, however, there is much more careful attention to detail than is usually found in the eighteenth-century Classic tablet, and there is also the effect of colour obtained by the use of bronze and of various marbles. The author of the design, Mr. Jas. C. Watt, gives us the following description of the materials used and their arrangement:—

"This design—in a style which might be described as free Greek—has in the middle a panel of Pavonazzo marble bearing the inscription in letters of bronze, and a bronze wreath. Round this there is a border inlaid with oblong pieces of coloured marbles, and edged with an enriched moulding of bronze. The enclosing order is also of Pavonazzo, with the enrichment of the corona, the capitals, the enrichments on the lower part of the columns, and the enriched astragal in base, all of bronze. The eyes of the volutes, and the small discs in the frieze and in the bands round the columns are red and white cornelians."

ASSOCIATION OF MUNICIPAL AND COUNTY ENGINEERS.

A WESTERN Counties' district meeting of the Association of Municipal and County Engineers was held at Bristol on Saturday. The members were received at the Guildhall by the Mayor of Bristol, and the business proceedings were held in the Civil Court. The President (Mr. F. J. C. May, C.E.), of Brighton, presided, and amongst those present were Messrs. W. Weaver, Kensington; J. P. Barber, Islington; J. Barber, London; J. T. Eayrs, West Bromwich; E. Pritchard, Birmingham; J. Lemon, Southampton; R. Godfrey, King's Norton; C. Jones, Ealing; Thomas, Aylesbury; J. Lobley, Hanley; Gamble, Dudley; W. Harper, Cardiff; J. Hall, Cheltenham; Parker, Hereford; Read, Gloucester; Hawkins, Somerton; Lewis, St. George's; Price, Birmingham; J. Paton, Plymouth; J. Willcox, Birmingham; Escott, Halifax; T. H. Yabbicom, Bristol; and others.

The Mayor (Mr. Howell Davies) in welcoming the Association to Bristol, said the value of such Associations could not be lightly estimated by any who held the good government and the good health of our large cities in thought. The marked progress of municipal engineering during the last half-century pointed to the valuable services which Municipal Engineers as a body had been able to render to the people of this country.

The President of the Association then took the chair, and thanked the Mayor for the cordial welcome which he had given them, and the kind expression of the high opinion in which he held the Association.

The President then proposed the re-election of Mr. J. Hall, Borough Engineer of Cheltenham, as hon. secretary for the Western Counties' district, which was carried.

Mr. T. H. Yabbicom, C.E., Borough Engineer of Bristol, then read a paper descriptive of the Corporation depot at Albert-road, Bristol. The dust-destructor, the fires of which were lighted in November, 1892, consisted of sixteen cells, or furnaces, of the ordinary Fryer type, constructed by Messrs. Manlove and Alliott, with automatic dampers and water reservoirs underneath the fire-bars. Steam-blast had been applied to eight of the furnaces, resulting in higher temperature and more perfect combustion; but this was certainly obtained at the expense of the fire-brick lining. No complaints of fumes had been received from any one; but two of dust as affecting certain manufactures had had to be considered. The heat was applied very gently at first, and it was not until June, 1893, that the cells were worked to their full capacity, when it was found that by damping down on Sunday about 560 tons could be passed through in the six working days, and that by working all seven days the amount specified in the contract, namely, 640 tons, could be just reached; but the clinker was of a soft, inferior character through the fires being drawn too rapidly. In the autumn of 1893 he had a steam blast with a considerable increase in the consumption of refuse, and a much higher temperature in the cells on that side, together with an improved clinker. For the past two years the average amount burnt from twelve o'clock on Sunday night until noon on the following Saturday had been 650 tons, which averaged about 7¼ tons per cell during twenty-four hours. The firemen or stokers were eighteen in number, divided into three shifts of eight hours each. It was doubtful whether it was good for the destructor building to allow the periodic expansion and contraction to take place which resulted from working at high pressure for six days and cooling down on the seventh, and whether the cracks and fissures generally found in destructors after a few years' work are not due to this cause. The residue after burning amounted on the year's average to a fraction over 34 per cent., but varied considerably from day to day, according as the refuse was drawn from the richer or poorer districts of the city; in fact, some from the East End came in the form of almost unburnable dust. Of the 11,500 tons of residue, 9,667 were sold or put to some useful purpose instead of being removed to a tip, which would have entailed a further cost of at least 725*l*. A vertical engine of twenty horse-power, by Tangye, utilised the steam from the boiler, and drives two mortar-pans and a stone-breaker. The ground mortar was used on Corporation works, and any surplus made finds a ready sale. The rough clinker was an excellent ballast for new roads and footpaths; the finer was useful for tar-paving, and with Portland cement formed good artificial stone either in the form of flagging, steps, window sills, door heads, sink drips, pillar blocks, and a great variety of purposes. He claimed no originality in employing the residue clinker to make artificial flagging, as he was only endeavouring to follow in the steps of distinguished members of the Association, fortified with many more years' experience of the subject than he had had. Neither did his experience lead him to the conclusion that a gold mine was to be discovered in a dust-heap; but at the same time it had convinced him that a clean, durable material, of pleasing appearance, could be prepared at a much less cost than that of stone, and it was significant that although the factory had been only feeling its way, as it were, during the last two years, yet the price of the natural stone flags raised in the neighbourhood had fallen 20 per cent. in price lately. At this reduced price there was a considerable margin in cost to the advantage of the artificial slabs, even when made by hand labour as at present, though he hoped that at no distant date it would be possible to use mechanical power unfettered by restrictions prohibitive to economical working.

The President said that the deterioration of the furnaces from the steam blasts proved that the designers of these structures, in order to secure more perfect combustion, would have to give more time for the burning operation. He believed that a larger number of cells, not forced so much, was a preferable method to a lesser number of cells made to do three times the work they were intended to do by means of forced blasts. He agreed with Mr. Yabbicom as to the effect "of damping down on Sundays." He started down damping down, and he found a certain amount of contraction going on in the furnaces which, although very little to commence with, would be very disastrous as time went on. He had now arranged to continue burning a certain quantity on Sundays in order to avoid too much cooling down o the furnaces.

Mr. C. Jones, Ealing, who proposed a vote of thanks to Mr. Yabbicom, said he had hit the nail on the head in the right place with respect to the working of destructors.

Mr. E. Pritchard, Birmingham, seconded the vote of thanks, which was supported by Mr. W. Weaver, Kensington, and I unanimously accorded.

Mr. Yabbicom, in reply, said he was quite convinced of the deterioration caused by the use of steam blasts.

Mr. J. R. Blaikie, assistant electrical engineer, then read a paper descriptive of the Bristol central electric lighting station. He described the system in use, the high tension alternating and the method of control and distribution of the electric current.

Mr. W. Weaver, Kensington, proposed a vote of thanks to Mr. Blaikie for his paper.

Mr. J. Lobley, Hanley, who seconded, asked whether they had tried rectifiers in Bristol. They were a great advantage, because they saved working the entire set of engines after midnight during the long dark hours of the winter.

The vote of thanks was accorded.

Mr. Blaikie said the rectifiers might act very well in Hanley, but he was informed that they did not in Cardiff.

Mr. Harper, Cardiff, said that, representing Cardiff, he should like to say that rectifiers there were an unqualified success.

The members were then entertained to luncheon at the Council House by Alderman Cope Proctor, Chairman of the Works' Committee, who presided.

The members then proceeded to view the Corporation depot, described in Mr. Yabbicom's paper, the electric-light station, the power station of the Bristol overhead electric tramway system, and the new park at St. George's. At the electric-power station,

Mr. T. Lawrence Lewis, C.E., Surveyor to the St. George's Urban District Council, read a paper describing the new public park for the district. St. George's is an eastern suburb of Bristol, with a population of 50,000, and a rateable value of 106,000*l*. In 1873, when the Local Board was formed, the parish was without sewers, light, or footway, and the change from darkness to light, cesspools to sewers, ashed paths to stone-paved roadways, had been effected without any appreciable increase in the rates. The land for the public park was obtained from the Ecclesiastical Commissioners, who most generously disposed of the fee simple to the Council for a sum less than half its value for building sites, the purchase-money being 12,000*l*., for which a loan had been effected, repayable in fifty years. Of the twenty designs for the laying-out of the park he (Mr. Lewis) was awarded the third premium, and directed to carry out his own design. The park was of forty acres, with a lake of two acres. The expenditure on the laying-out of the park amounted to 5,255*l*., and the balance remaining in hand for planting, &c., was 745*l*.

Mr. Dawson proposed a vote of thanks to Mr. Lewis for his paper, and congratulated the Council of the district upon the many improvements which Mr. Lewis had carried out.

Mr. Yabbicom, Bristol, who seconded, said the park would be an important addition to Greater Bristol when St. George's was taken into the city.

Books.

Rivers and Canals. By L. F. Vernon-Harcourt, M.A. Second Edition. The Clarendon Press, Oxford, 1896.

THE second edition of this work amounts practically to the rewriting of the book. The old edition was compressed into 347 pages, but this in the second edition has expanded into two volumes containing, with the index, 704 pages. The diagrams also have been increased in number, but as the scale of some of the plans has, with advantage, been reduced, they do not occupy any more space. This treatise has been brought thoroughly up to date, and the way it is printed and got up leaves nothing to be desired. The diagrams have been tinted, which renders them much clearer and more easy to grasp. A good index greatly facilitates reference.

The arrangement has been made more systematic, and its value as a book of reference much increased, by keeping rivers and canals each in a separate volume. By introducing accounts of the training of the rivers Loire, Weser, Ribble, &c., the information concerning river works has been made to include the most recent practice, and by describing the results of the river works treated of in the former edition, the principles of river engineering have been placed on a more scientific basis. The recently-completed Manchester, Baltic, and Corinth ship canals, with the methods employed in their construction, are sufficiently described.

The book may be said to contain a description of river improvements and canal construction, both for navigation and irrigation purposes, with details of their working, the world over. The compilation of such a work requires an extensive personal acquaintance with the works treated of, combined with unceasing energy in selecting the requisite information concerning them from duly authorised reports by the engineers responsible for their construction and working—for which the author's experience eminently fits him.

Among recent developments which are described in these volumes, may be mentioned the successful application of the sand pump dredger to the Mersey Bar. For a long time it was considered doubtful whether the comparatively small effect that a dredger could produce would make any impression on a bar of its dimensions; and it was out of the question to employ an ordinary ladder dredger, owing to the roughness of the sea in certain weathers. Fortunately, it was decided to try the effect of a more or less temporary dredger, fitted up with a sand pump, at the smallest possible expense. The results of this were so apparent that a larger and more powerful dredger was ordered, capable of lifting 3,000 tons of sand in three-quarters of an hour, and two of these are now employed on the bar, with the result that steamers, which formerly on arrival there at low water had to wait for the turn of the tide, can enter the port at all stages of the tide.

The employment of the Stoney sluice in the canalisation of rivers, which has of recent years received considerable development, is also treated of. This form of movable sluice has been used for spans up to 66 ft., and, owing to its weight being counterbalanced, and to its being provided with friction rollers, working in a very simple and effective manner, it can be lifted by one man with the full pressure of water against it. As the water escapes underneath, instead of over, the sluice, accumulations of silt on its upper side are prevented. The bed of the channel on both sides of the sluice must be protected against scour.

Constructional Iron and Steel Work as applied to Public, Private, and Domestic Buildings. By Francis Campin, C.E. London: Crosby Lockwood & Sons.

"A Practical Treatise for Architects, Students, and Builders" is the sub-title of this work, and the subject being one whose "importance is paramount," it is with a feeling of disappointment and regret that we lay down the book after a careful study of its contents. The rapid growth of iron and steel construction for buildings, and the small number of architects, builders, or even engineers who are conversant with the simple methods of determining the stresses in the various parts of such structures, renders a really well written simple treatise on the subject most desirable.

The principles involved are really so simple, and thus are all so easily traced back to one or two fundamental axioms (once a grasp is obtained of them), that we think it must be greatly the fault of the writers of the day that so few engaged in constructional design escape from the bewildering array of figures and equations without a feeling of the hopelessness of the task of attempting to follow them through. Hence, at the first start off 99 out of every 100, we should think, are prevented from ever rising above an intelligent use of the tables of "safe working loads" issued by suppliers of rolled joists.

Take a case in point. The author, p. 45, expects the average mind not to take fright at—

$$M = \frac{s}{bd}\left\{ b\,d^3 - b_1\,d_1^3 - b_2\,d_2^3 - b^3\,d^3{}_3 \right\}$$

To the mathematician and those conversant with such matters the solution is of the easiest, but it is just to the opposite class that the author is addressing himself, and therefore all figures and explanations should be of the simplest and most rudimentary character.

We fear Mr. Campin has missed a great opportunity of doing a very useful work, which is the more to be regretted as this volume forms one of the Weale series.

It should not be forgotten that a book of this kind is principally of use as a reference, so that

each part should be, so to speak, self-contained, and the various subjects dealt with should be clearly distinguishable under sub-headings in bold type; also a glossary of terms and an ample index should be provided. In all these points we are sorry to say the author falls far short of our ideal. In a word, the book is very heavy reading, and, in our opinion, not suited to the class for which it is evidently intended. We think Mr. Campin would have been much better advised had he confined himself to a few simple formulæ, and elementary graphic statics, with a carefully-worded explanation in familiar language, which would have rendered his advice on practical matters of much greater value, in that its application could be realised by the average reader.

Notwithstanding this, there is a great deal of very useful information to be found spread throughout the book.

The Construction of Carriageways and Footways. By H. P. Boulnois, M.Inst.C.E., City Engineer of Liverpool. London: Biggs & Co. 1895.

This book is devoted to the consideration of the construction of paved streets and footways suitable for towns where there is considerable and heavy traffic, and the subject is dealt with in a practical and condensed form. The author is of opinion that "the present uncertainty as to the durability and suitability of the various descriptions of pavement" is due to a want of completeness in the statistical returns which from time to time have been published by municipal engineers. The author states that he "had hoped to be able to extricate some useful information from the statistics that have from time to time been gathered upon this point, but under the existing obscurity of information he found it is impossible."

The volume before us forms a concise, practical text-book, descriptive of the various methods in general use for paving carriageways and footways, and the lucidly illustrated information, drawn from an extensive and varied experience, given in Mr. Boulnois's peculiar antithetical style, will form a most valuable addition to the literature upon the subject. We think, however, that Mr. Boulnois has come to too hasty a conclusion in his hardly-qualified condemnation of bricks as a paving material. Especially in America, brick pavements appear to have met with undisputable success, and we would suggest that if brickmakers in this country were to give the subject an intelligent consideration, the objections to their use here might not prove to be insurmountable.

Refrigerating and Ice-Making Machinery. By A. J. Wallis-Tayler, C.E., Assoc.M.Inst. C.E. London: Crosby Lockwood & Son.

The subject of this book is a very important one at the present day; but the majority of our readers are interested rather in the results obtained by modern refrigeration than in the precise methods adopted. Nevertheless there should be a large number of persons whose business is connected with importation or storage (rendered possible by the later developments of cold-producing apparatus) to whom a general and practical knowledge of the methods employed will be found useful and interesting. To this class the work will be found the more acceptable in that very little has already been published on the subject in a comprehensive form.

The author deals not only with ice-making in its various forms, but also with the arrangement and construction of cold stores and freezing chambers. The cost of various systems as found by actual practice is given in detail, and numerous illustrations are reproduced showing not only interesting details of parts of machinery, but also general arrangements of complete installations, and the salient features of different systems. The subject is one which has exercised the minds of many clever inventors, and thus the author has considerable ground to cover, which he accomplishes in a clear and concise manner, giving evidence that he has fully studied his subject and become acquainted with working details from personal observation.

The concluding chapter contains several useful tables and memoranda not generally met with; and, as a whole, we can recommend the book to the attention of our readers.

Shop Kinks and Machine Shop Chat. By Robert Grimshaw, M.E. London: Sampson Low, Marston, & Co.

The title of this work leaves little doubt as to the nationality of its author, and, as might be anticipated, it abounds in Americanisms which are rather startling, after the sober solid sayings of our own authors. The book is composed of a series of short notes "in familiar language," giving hints, "kinks," and instructions on the thousand-and-one jobs which come under the hand of the general machinist, and advice as to the handling and working of the various tools to be used.

Most of the matter produced has already appeared in print in the *Mechanics, Machinery*, the *American Machinist*, and elsewhere, some of the jottings being evidently in reply to queries from correspondents, which, in the absence of the questions, makes the answers sometimes not a little difficult to follow, until this point is realised. Taken as a whole, however, the book is full of useful hints and novel ways and means of doing things. These are well worth the consideration of all those either having to carry out mechanical work or having to look after others who do.

One of the most racy notes is that on "Bursting Emery-wheels":—

"Quite a commotion in one of your shops as I came along. Emery-wheel burst and took a piece of the wall with it as it went out to look for a shop where they know something about such things, and how to use them. Your foreman says that that is the second wheel that has burst with the same man, and that he seems to be a sort of a 'hoodoo' in that particular. Well, I don't think that there is any luck about it. If that man had gone on running emery-wheels the way he has for the last six or seven years and had not had a few of them burst, I should have considered it luck, and much better luck than he deserved. . . .

"That man gets about as tapering a mandrel as he can find; he crowds the wheel on it so tightly that the cone of the mandrel has a tendency to break the wheel apart, and then he runs the wheel as fast as he can get it to turn, and wonders that with the wedging action on the inside and the so-called centrifugal action all through it, particularly at the rim, it flies. If he will take a parallel mandrel that is of the same size as the hole in the wheel, and will put some thick paper between the collars and the sides of the wheel, he can hold it centrally without any such tapering nonsense, and if it doesn't run true it can be made to do so in about five minutes by a diamond point.

"If the makers of that wheel, and of other emery-wheels, had thought it best to use tapering mandrels with them, the wheels would have had tapering holes through them; they would have been much more easy to make. But the makers thought that by putting a cylindrical hole in each wheel, the user would 'see the point,' and use a cylindrical mandrel."

Milling tools and their treatment and use receive their fair share of attention, as might be expected; in fact, each department of the engineer's factory is dealt with, and its own particular set of "kinks" or "wrinkles" given, which are mostly well worth reading.

Though we do not admire the style of the book, as a matter of taste, it is really a very good and useful one in its way, and, we should add, is well and clearly illustrated.

TRADE CATALOGUES.

The Edison & Swan United Electric Company send us a large illustrated price list of their well-known incandescent lamps. Particulars of the voltage, candle-powers, and prices are given with the lamps in the same paragraph. The catalogue contains also information by which the purchaser can determine the total power taken by the lamp when run at a certain marked voltage, the number of lamps which can be worked per electrical horse-power, the number of Board of Trade Units used by a lamp in any time, &c.; together with a great deal of general information as to the efficiency &c. of electric lamps.——Messrs. Young & Co. (London and Manchester) send an illustrated catalogue of their stable fittings, with illustrations of the fittings for various classes of stables. The notes to the illustrations contain a good useful suggestions. Among the illustrations is one of a stable for forty horses for a London Vestry; for this class of stable, as well as for breweries, in both of which large and heavy animals usually have to be provided for, Messrs. Young have fittings and floors of special strength. The catalogue also includes cow-houses.——Mr. G. Shrewsbury sends us his catalogue of gas conservatory boilers and hot water apparatus, including the "Calda" hot water heater for gas, the "Eclipse" bath heaters for oil, gas cooking and warming stoves, asbestos gas fires &c.——Mr. A. Cort sends us a prospectus of his hard or flexible fibre for washers, valves, &c., offered as being especially suitable for packing where there is a great pressure of air, water or gas (it is not recommended for steam packing). It is specially recommended by the maker for hot and cold water packings, owing to its density, and its being insoluble in and unaffected by hot or cold water. We have not seen any specimen of the material.——Mr. T. J. Syer sends us a small catalogue of portable forges, anvils, saws, and other implements, with an illustration and special price list of his patent wood split pulleys, which are made from the best seasoned timber bent under pressure, the rim in three pieces with the grain crossing at right angles, said to be "as strong as iron with one-tenth the weight."——The Textile Venetian Blind Company send a prospectus of their form of venetian blind, in which the laths are framed of light slips connected by steel pins, instead of solid wood, and are covered with a highly varnished textile material: the advantages are greater lightness and the possibility of employing a decorative textile material instead of the painted laths.

Correspondence.

To the Editor of The Builder.

ST. MARY'S CHURCH, OXFORD.

Sir,—I am much interested in the extracts you published to-day from the account given of Nicholas Stone's works by his nephew.

Among them is mentioned the south porch at St. Mary's Church, Oxford, which, it is said—

"Hee desined and built."

This porch, with the statue of the Virgin and child in the central niche, was erected at the expense of Dr. Morgan Owen, Archbishop Laud's chaplain, and the "scandalous statue" formed one of the articles of Laud's impeachment in 1641.

In his defence Laud replies to his accuser—

"He thinks that I countenanced the setting of it up, because it was done by Bishop Owen. But Mr. Bromfield who did that work gave testimony to the Lords that I had nothing to do with it."

Can any one tell us who Mr. Bromfield was, and what his share was in making the porch?

Thos. G. Jackson.

SANDOWN CASTLE, DEAL.

Sir,—Referring to a recent correspondence in the *Times*, let me say that Sandown, Deal, and Walmer Castles are undoubted Tudor contemporaries, and the other stone castles erected along our south-west shores by Henry VIII. On the abutment of the drawbridge of the first was the monogram, carved in the Ashlar stonework, of the great Cecil, the Minister of that period, and the Burleigh book in the manuscript department of the British Museum, and the Muniment-room at Hatfield would surely endorse this.

I measured the whole of the works of the first-named, and was struck by the marvellous workmanship in the "fosse" galleries and the lunettes and embrasures.

My reports on this part of the coast to the War Department, and accompanying drawings, when the late Sir Benjamin Hawes was War Secretary, were printed and circulated amongst the owners of adjacent property (Canterbury Cathedral, Earl Guildford, the Sewers Commissioners, Deal Municipal Authorities, and others), but no concerted action was forthcoming, and during the ever-lamented Sidney Herbert's term of office the abandonment of Sandown Castle was determined on as an antiquated military work of defence.

The War Department, in addition, was interested in so very limited a frontage of shore affected by the then recent increased erosion of the shingle.

I urged that its entire abandonment might eventually be regretted, as no doubt it has since been; for, regarded in reference to shore defence, it was a very suicidal step, as a comparatively moderate outlay might have preserved the entire structure to the present day.

Henry VIII.'s castles along our south coast are as recognisable as their successors, the modern brick Martello towers of William Pitt, are distinctive of the Hanoverian period.

J. B. Redman,
Memb. Inst. C.E.

P.S.—In his letter in the *Times* of September 11 Mr. Ferguson wrote:—"This castle was designedly destroyed *in the early part of this*

century by the hand of man and the aid of gunpowder." This is true of the *latter* part of this century—viz., some two years back, and a very tough job it was for the Royal Engineers.

LONDON COUNTY COUNCIL CONTRACTS.

Sir,—In the interests of the ratepayers as well as the contractors of London, we venture to raise a protest against the one-sided and objectionable conditions embodied in the form of contract now being issued by the London County Council, the unfairness of which renders it impossible for many of the contractors to tender for the Council's work.

We have recently been invited to tender for the superstructure of the new asylum at Bexley Heath, and have had an opportunity of going carefully through the form of contract, and have no hesitation in stating that their terms are of such a character as to preclude any contractor of standing from being a party to it.

In order not to be misled by any exaggerated views or prejudices of our own, we have consulted an eminent firm of solicitors (who have had special experience in dealing with contracts of this kind) who, after carefully perusing the particulars, strongly advise us not to tender upon them.

We think, in the interests of the ratepayers, the Council should give this matter careful consideration, as, until the terms are modified to make them fair and equitable to both parties, the Council is not likely to meet with a satisfactory response to invitations for tenders; consequently the competitions are likely to become limited to a few firms who, by having high prices, are prepared to take the risks of the unfair conditions.

Holloway Bros.

STRIKE OF PLASTERERS AT THE ROTHERHITHE TOWN HALL.

Sir,—The action of the Plasterers' Union in ordering a strike of plasterers at the new buildings of the Rotherhithe Town Hall is so extraordinary, and so contrary to the average Englishman's sense of fair play and justice, and (if tolerated) the consequences so far-reaching as to be of more than local interest, that I am advised that the facts should be placed before the public through the medium of the Press.

It is generally known that the building trades have recently experienced a series of strikes in almost every trade, and the chief contention of master builders was that a rise of wages should be given, but that each representative trade union should agree *not to coerce non-unionists*, and that union and non-union should be upon an equal footing, and work amicably together. This contention of the master builders was so fair that it received the general approval of the British public, and such approval undoubtedly influenced the officials of most of the trade unions to come to an agreement embodying this rule with the master builders; in fact, nearly all the unions, excepting the Plasterers' Union, who only half accepted the principle, and they do not even now abide by the half they then agreed to, as the following will show. About three or four weeks ago, I received a communication from the Secretary of the Plasterers' Union (forwarded to me while I was on a short vacation in North Wales), calling my attention to the fact that the "solid" plastering at the Rotherhithe Town Hall had been entrusted by me to Mr. Chessell, and that the Union "objected" to any plastering being done by him, and hinting that unless I paid off Mr. Chessell and his men there would be a strike. I did not act upon this tyrannical proposition, but was informed a few days later that the Union had ordered all the Union men working on the ceilings to strike, and remain out until Mr. Chessell and his men were discharged. The only reason given was that Mr. Chessell and his four sons had themselves continued to work, and persevered in carrying on an urgent plastering work, during the late strike some months ago, obviously nothing whatever to do with the Rotherhithe Town Hall, and they were now going to pay him out, and if possible, drive him and his sons out of the trade, although Chessell was conforming in every way to the rules agreed to by the trade, and being quite willing, and even desirous of employing Union men, and the full Union rate of wages of 10d. per hour being paid. For some days this strike was maintained, until the architects, for the sake of getting on with the work, instructed Mr. Chessell to withdraw from the works for two or three weeks, to allow the men engaged upon the decorative plaster ceilings, to complete their work without his obnoxious presence. Had I been in town I should never have agreed to such a proceeding, but upon my return, finding things as I have described, I left matters as they were. Now comes the extraordinary and vindictive action of the Union. The Union men were allowed to resume work on the ceilings, but the officials of the Union intimated that, unless a pledge was given that Chessell and his sons and non-union men should not again be employed, they would again call out their Union men, *even though Chessell and every non-union man* had already been sent off the works to satisfy them. As no self-respecting employer could give such a pledge, I refused, and this (Saturday) morning the plasterers were called out, and a strike is now being maintained by the Plasterers' Union, not because of anything obnoxious to them at present existing on the works, but because *at some future time* after the plasterers engaged upon the decorative ceilings have completed their work and left the job, I may employ Chessell and his sons and non-union men again. I may here state that I have always, in every trade, given employment without preference or asking questions upon the point, to union and non-union men, always paying the full rate of wage to competent men; and whenever I was questioned on the subject at the public meetings during my County Council contests, I always stated that I did not, and would not, make any distinction between union and non-union men, and the union adherents always expressed themselves satisfied; but they now go further, and we find that the despotic and tyrannical power of the Union is being exerted to bring pressure upon myself and other master builders, to deprive Mr. Chessell, his sons, and non-union men (who may be obnoxious for similar childish reasons) of their livelihood. Believing in the power of public opinion to still "right the wrong," I place the facts before that tribunal without further comment, beyond stating my belief that the great mass of the working men will rebel against such unprogressive action on the part of the officials of the Plasterers' Union, repugnance to coercion being inherent, I trust, in every Briton.

Howell J. Williams.

13 to 18, Bermondsey-street, S.E.

September 19, 1896.

*** The above letter was postponed from last week for want of space.—Ed.

ROYALTIES ON BRICK CLAY.

Sir,—Could you or one of your readers inform me what royalty is usually paid upon the clay by brickmakers in the case of the land *not* being the property of the brickmakers? C. T. B.

Roman Remains at Norton Malton.—A correspondent writes:—"Whilst excavating for the main sewer on Langton-road, Norton Malton, the men in the employ of Mr. Anthony Lyons came across an old Roman road, and found the perfect skeleton of a man and other pieces of human bones, old coins, and broken urns."

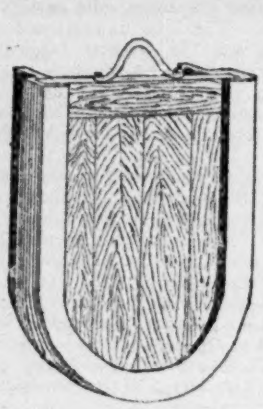


Fig. 36.

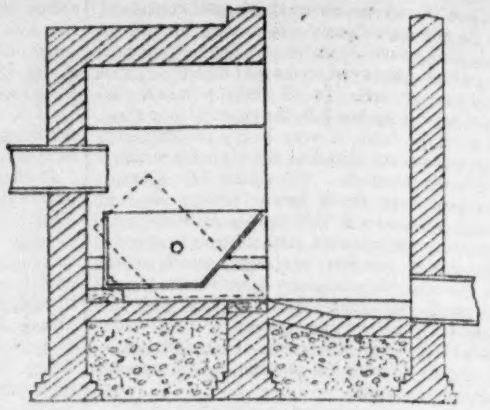


Fig. 37.

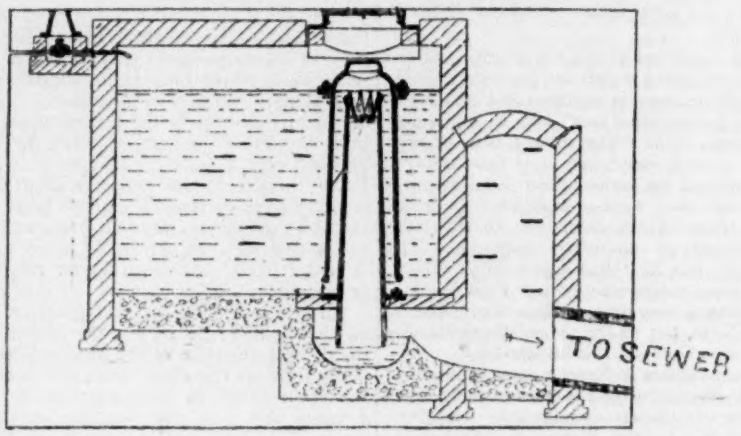


Fig. 38.

The Student's Column.

RURAL DRAINAGE.—XIV.

If sewers are properly designed and constructed, and are therefore "self-cleansing," there should, as a general rule, be little occasion for flushing. As, however, sewage is so variable in its flow, and as obstructive materials, such as sticks, cloths, &c., occasionally find their way into the sewers, forming the nuclei of complete blockages, and for many other reasons, it is advisable to provide special means for flushing the sewers when required. Flushing becomes necessary where sufficient gradient is not obtainable, as in very flat districts; also at the upper parts of sewerage systems, or wherever there are "dead-ends," as in such cases the flow is extremely variable and at times practically nil. Flushing is most required during the summer months, when the flow is least and decomposition most rapid.

There are two principal methods of flushing, the first method consists in damming back the sewage and allowing it to escape suddenly, the second method requiring the use of a separate flushing tank.

The first method is the least expensive, but it is only applicable to the lower levels of sewerage systems. There are several objections to it, amongst which are the following:—

1. The stagnation of the sewage above the point where the dam is fixed necessarily causes a deposit of solid matters in suspension. This deposit, when the flush takes place, is apt to be only washed forward and to accumulate again at a point lower down in the sewer.

2. The damming back of the sewage tends to force back the sewer gases into the houses connected above with the sewer. Properly speaking this result should be impossible if the house drains are properly disconnected and ventilated. Unfortunately this is not always the case.

3. Deposit takes place upon the inner surface of the sewer above the level of the normal flow of the sewage, which decomposes and gives off noxious gases.

4. The heading up of the sewage in the sewers causes additional pressure which may cause damage to the works.

5. Negligence in removing the dam may produce flooding, and considerable damage.

Any stagnation in the flow of the sewage

through the sewerage system is much to be deprecated, and should be avoided as a matter of principle.

When this system of flushing is adopted, the damming usually takes place at the manholes.

There are many ways in which this is accomplished, one of the simplest being to fix a sliding door to the mouth of the outlet sewer (fig. 36).

This door moves in a grooved frame and can be raised or lowered by means of a chain worked from the surface of the ground.

The second or flushing-tank method is usually automatic in its action, and consists in rapidly emptying into the sewer the liquid contents of a separate chamber or vessel constructed for the purpose. This chamber sometimes consists of a tank or cistern placed in the line of flow of the sewage, and so arranged that it overbalances when full, emptying its contents rapidly into the sewer (see fig. 37, taken from Baldwin Latham's "Sanitary Engineering").

A much better system of flushing is that invented by Mr. Rogers Field, M.Inst.C.E., which is based upon the action of the syphon. Many improvements have been made in the syphon flushing tank since its first introduction, and its modifications are countless. The form supplied by Messrs. Stone, and illustrated in the accompanying diagram (fig. 38), will indicate the method of action.

The syphon, which is of the annular type, is fixed in a brick chamber or tank, which is gradually filled with water by means of a small tap. As the water rises in the tank it also rises in the outer leg of the syphon compressing the air in front of it and causing it to escape through the water seal at the foot of the long leg. When the level of the water in the tank reaches the upper half of the long leg of the syphon, it runs over, and, falling clear of the sides, drops into the water seal at the foot, and syphonage commences which rapidly discharges the entire contents of the tank into the sewer. The tank then recommences to be refilled, and discharge takes place periodically. Sewage or water from a water-supply system, stream, or other source, may be employed for filling the tank. If sewage is used it must be carefully strained so as not to clog the syphon; if water from a main is used, any possibility of pollution to the water supply by sewage gas must be guarded against.

A stream or pond situated above the level of the sewer may be utilised for flushing purposes, communication with the sewer being made by means of a large pipe, governed by a sluice valve.

Where other means are not available, flushing may be carried out by means of water-carts, the water being discharged into the sewer through a hose-pipe at manholes or lamp-holes.

The quantity of water required for each flush must be determined by the diameter, gradient, and length of the sewer to be flushed, the object being to produce such a velocity of flow as will thoroughly cleanse the floor and inner surface of the sewer, and carry the deposit to a point where the natural flow is sufficiently rapid to deal with it, or to a place adapted for its removal by other means. It must be remembered that a volume of water discharged suddenly into a channel does not flow on in a continuous and undiminished wave. On the contrary, the friction caused by the walls of the channel retards the external particles, and the body of water lessens as it proceeds, until at a certain distance from its start it ceases to practically affect the original flow. This distance naturally depends upon the degree of smoothness of the inner surface of the channel.

The addition of disinfectants to the water used in flushing sewers is useless, as the quantity necessary in order to render the process effective would ordinarily be prohibitive from the point of view of cost. Besides, it would be of little use to disinfect the sewers without disinfecting all the house drains at the same time.

Whatever method is adopted for flushing, the work must be done thoroughly or it will only be a waste of time and money. Little driblets turned into the sewers at considerable intervals of space and time, do no good whatever, and rather tend to accumulate and consolidate deposits which would have been naturally washed away at the next general increase in the flow.

Clock, West Teignmouth, Devon.—A large new clock has just been erected upon the parish church here which shows time on three large dials, strikes the hours, and chimes the "Cambridge" quarters. The work has been carried out by Messrs. John Smith & Sons, Derby, to the designs of Lord Grimthorpe.

GENERAL BUILDING NEWS.

Foreign Cattle Market, Deptford.—The Corporation of the City of London in 1888 constructed, as an experiment, four chill-rooms, capable of freezing 400 sides of beef, the result being satisfactory, as evidenced by the demand; in the year 1890 the accommodation was extended to permit of 800 sides of beef being chilled simultaneously. Still greater facilities of the kind being found necessary, it was decided in 1895 to carry out some extensive works at this market. A building, containing eight additional chill-rooms, has now been constructed capable of chilling 1,200 sides of beef, making a total of 2,000 sides. The contract for this work, so far as building is concerned, has been in the hands of Messrs. Rudd & Son, of Grantham. The refrigerating machinery has been supplied by the Haslam Foundry and Engineering Company of Derby, the managing director of which is Sir Alfred Seale Haslam, who recently presented the bronze statue of her Majesty the Queen to the Corporation, which has been placed near to Blackfriars Bridge. A building comprising ten cooling-rooms, connected with a similar number of slaughter-houses, has also been constructed, to which the meat will be transferred from the slaughter-houses, and allowed time in which to lose the normal animal heat before being carried to the chill-rooms with which the cooling-rooms are connected by overhead running rails, so that the sides of beef do not require to be handled between the processes of dressing, cooling, and chilling. A second block of ten similar cooling rooms is in course of erection. Eight additional sheep slaughter-houses have also been constructed, besides houses for the boiling and preparation of tripe; these latter houses are so arranged that the fumes from the boiling pass through the fire of the main boilers, and are entirely consumed. The contract for the cooling-rooms, sheep slaughter-houses, and tripe-boiling houses has been let to Messrs. Munday & Sons. New slaughter-houses are about to be built by Messrs. Rudd & Son for killing both bullocks and sheep. The system of chilling, adopted in 1888, was fitted up by the Haslam Foundry and Engineering Company on the cold air principle; this has now been converted into an ammonia compression machine. Temporary lairs, to accommodate 1,600 bullocks, have been erected during the past year, while a large basin, about an acre in extent, is being filled up, with a view to the site being utilised for market purposes. The expenditure incurred will be about 50,000*l.* The works have been carried out under the direction of Mr. Andrew Murray, the City Surveyor. It may be interesting to know that during the year 1895, 151,049 bullocks and 240,873 sheep were landed at this market from the United States, Canada, South America, Australia, and other foreign parts.

New Board Schools, Nunney, Frome.—New board schools were opened on the 25th ult., at Nunney, three miles from Frome, from the plans and under the superintendence of Mr. E. H. Lingen Barker, of London and Hereford. They consist of mixed schoolroom, class-room, and infant's schoolroom, with two porches, cloakrooms, and lavatories, and the usual latrines in the playgrounds. The school and class-room are divided by doors, part folding and part sliding; the floors are of woodblock. The latrines are supplied from the main in the High-road, and are fitted with Adams' patent troughs and automatic flush cistern; the rooms are ventilated on Boyle's system. The walls are built of rock-faced coursed local oolite with Monk's Park dressings, and the roofs are covered with Bridgewater dun-coloured, angular, corrugated tiles with ventilating spirette over main roof and projecting bell-pent over front gable. The preparation and walling round of the playgrounds have cost 280*l.*, teachers' residence 275*l.*, and school buildings with their offices 860*l.*, which for the 212 children accommodated gives only 4*l.* 4*s.* 1*d.* per head.

Marischal College, Aberdeen.—It has now been agreed to proceed with the erection of the new south wing of Marischal College according to plans by Mr. A. Marshall Mackenzie.

New Schools, Nuneaton. — New National schools have just been completed for the Committee of Managers at Abbey Green, Nuneaton, for 416 children. This accommodation is provided in a mixed school for 180, and four class-rooms for 236 boys and girls. Spacious cloakrooms with lavatories are annexed to each department. Additional class and cloakrooms have also been erected to the present infants' school. The whole of the works have been carried out by Mr. Joshua Wilson, of Nuneaton, the contractor, at a cost of 1,620*l.* 17*s.* 6*d.* for the mixed school, including latrines, drainage, boundaries, formation of playgrounds, &c., and 245*l.* for the infants' school, making a total outlay of 1,865*l.* 17*s.* 6*d.* The architects were Messrs. J. R. Veall & Son, of Wolverhampton.

School Buildings, Lavenham.—On Saturday, September 26, the schools built by the Lavenham School Board were opened. The main room is lighted from the south, and is divided by glass partitions from three large class-rooms, which together occupy nearly the same space on the northern side. The internal walls are lined with polished pitch pine up to the level of the window sills; the floor is laid with wood blocks, and the desks and fittings are on the dual system. At the west end are separate departments for infants and babies, the seats here being in the usual gallery form. Large cloakrooms are provided for the different sections, and on the first-floor an apartment is reserved as board-room and teachers' sitting-room. The warming is carried out by means of Marlborough stoves, with a movable canopy. Messrs. Grimwood & Sons, of Sudbury and Ipswich, were the builders, and the architect was Mr. J. S. Corder, of Ipswich.

The Hope Hospital, Langholm, Dumfries.—The memorial stone of the Thomas Hope hospital was laid at Langholm, on the 21st Sept. The building is far advanced towards completion. The material used in its construction is the white freestone of the district. The walls, which are very thick, are of bull or rock-faced work, with coins and principal stones in bold tooled work, with proportioned gables, pediments, and circular dormer windows. It has a tower in the centre, with turrets, and finished off with battlements. The hospital is entered by the main corridor, 7 ft. wide, which leads through the administrative block, containing the doctor's room, and communicating with the operating-room. On the left is the visitors' room, and farther on is the mortuary passage, and on the left of the main building is the women's section, having a corridor 6 ft. wide, off which there are two small wards, convalescent room, nurses' room, and a larger ward. A lavatory wing contains bathroom, &c. On the right of the principal corridor there is a dispensary for out-patients. Near this part of the building is the matron's room, which separates the male and female sections. The section for males contains essentially the same accommodation as that for the females. The servants' bedrooms are on the first floor. The kitchen wing is to the right of the corridor, and contains heating furnaces, stores, pantries, &c. There is a laundry adjoining. The estimated cost of the building, exclusive of site, is 17,000*l.* The contractors are: — Mason work, Mr. Thomas Telford; joiner, Mr. M. Knox; plumbing, Messrs. Wallace & Allan; plaster work, Messrs. Bell & Sons; slater, Mr. M. Cowan; painting, Mr. J. Goodfellow, all of Langholm; heating, Messrs. Benham & Sons, London. The architects are Messrs. Woodd & Ainslie, of London.

Wesleyan Chapel, Bushbury, Staffs.—On September 17 the Wesleyan Chapel, recently erected in Shaw-road, Bushbury, was opened. The building is of red brick with stone dressings and slate roof, and will accommodate about 200 persons. It consists of a mission room or chapel and three class-rooms, with outbuildings. Mr. H. Gough, Dudley-road, was the builder, and Mr. M. Johnson, Queen-street, Wolverhampton, the architect.

Re-opening of Church, Syerston, Notts.—The parish church of Syerston, after being restored, was re-opened on September 22. The building, dedicated to All Saints, consists of an early thirteenth-century tower, with nave, chancel, and south porch of the fourteenth century. The font and east window are fifteenth-century work. In the tower are two ancient bells; one bears the pre-Reformation inscription, "Ave Maria." The fine Jacobean pulpit has its date in the canopy, 1636. The piscina is worthy of observation, having in the stone basin a rose deftly carved over, and concealing the orifice of the drain. Messrs. Smith, Brodrick, & Lowther, of Hull, conjointly with Mr. Harold Bailey, were the architects. The church, when they undertook the work, was in a deplorable and unsafe condition. The parapet of the tower, which was of brick and plaster, and much decayed, has been replaced by stone, with battlements. The old nave-roof was very rude in construction, rough and rotten; and below the whole roof, through the length of the church, was an uneven plaster ceiling, which from within the building concealed all the tracery of the east window. An open roof of pitch pine has been placed over the nave, and a boarded and ribbed roof over the chancel, the two roofs being divided by two double ribs, which form a chancel arch, springing from two richly-carved stone corbels. The gallery, with the old deal fittings, have been swept away, and the whole furniture of the church and chancel is now of oak. The chancel furniture is delicately carved, and benches in the body of the church are after the designs of old benches, some few of which remained in the church, and these, having been repaired, are yet preserved. The east window has been filled with stained glass from the designs of Mr. C. E. Kempe. The centre-light represents the Crucifixion; in lights on either side are figures of the Virgin and S. John, and adoring angels are shown in the tracery above. The window bears a suitable inscription. The altar and credence table have been made of oak which served in the roof of the unrestored church, and old carvings, dated 1629, found in the chancel-roof, are introduced in the credence-table and in the wall-plates of the porch. The font-cover, of wrought-iron, has been supplied by Messrs. Jones & Willis, from drawings by the architects. The original estimate for the restoration, which included the heating and drainage of the church, was about 750*l.* Messrs. Thrale Brothers, of Newark, were the builders.

Public Offices, Lytham.—The Lytham Urban District Council recently acquired the Town Hall,

and have made very extensive alterations so as to convert them into suitable public offices, which have now been occupied. On entering, the gas rates and inquiry office is immediately on the left, the Surveyor's office being further along. The Council Chamber is the largest room in the building. It is situated on the ground floor, and the windows overlook a Promenade and terrace. Access is obtained through the door opening on the right of the vestibule. The walls are painted fawn-colour, with ornamental frieze, and the ceiling is papered. Two square pillars, which support the roof, have mahogany angles, and are panelled in Lincrusta-Walton. The skirtings, doors, and other fittings are also of mahogany. The Welsbach system of incandescent gas-lighting will be employed, while this and all the lower rooms are heated with hot water. Adjoining the Council Chamber is a spacious cloakroom and lavatory. On the opposite side of the wall, in front, is the nuisance inspector's office. The landing is well lighted with skylights. At the top of the staircase, on the right, is a waiting and document room, while the small apartment on the left is also used for the storage of documents, &c. A little farther on is the committee-room, and along the passage to the left of the landing are situated the clerk's office and that of the medical officer of health.

Proposed Church, Colwyn Bay.—It has been decided to erect a church in the upper part of Colwyn Bay. The architect is Mr. J. Douglas, of Chester.

Baths and Wash-houses, St. Paul's, Deptford.—The foundation-stone of the baths and wash-houses for the parish of St. Paul, Deptford, now being erected in Lawrie-grove, New Cross, was laid on September 24. The contract for the building is 32,500*l*. The water for the supply of the baths will be obtained from a well which has been sunk at a cost of 2,600*l*. It is anticipated that the building will be thrown open about a year hence. The builder is Mr. H. L. Holloway, and the architect Mr. Thos. Dinwiddy, of Greenwich.

Sunday School Building, Desford, Leicester.—This building, erected in connexion with the Baptist Chapel, Desford, was opened on September 24. The school is a two-story edifice. The ground floor is divided into two rooms, one for infants, and the other for class purposes, each being capable of accommodating about forty scholars. A room large enough to seat about 120 scholars occupies the whole of the upper story. Sliding doors are here provided to communicate with the chapel. The total cost of the building, furnishing and renovation, will be about 500*l*.

Reredos, St. Matthew's Church, Leicester,—A further addition to the reredos at St. Matthew's Church, Leicester, has now been made. Three bays of the work have been completed, the subject being the Ascension. The cost up to the present exceeds 500*l*. The sculptor is Mr. Walter Rowland Ingram.

Theatre, Gateshead.—A new theatre, called "The Metropole," was opened on September 28 at Gateshead. It takes the place of the Queen's Theatre. The theatre occupies the principal portion of a block of new buildings at the junction of High-street with Jackson-street. A hotel stands at the corner of the two streets. Both the hotel and theatre are faced with red pressed bricks, with elaborate stone dressings. The theatre is capable of accommodating about 2,500 persons. The pit is 60 ft. wide, and 60 ft. long from curtain to back wall. The depth of the stage from the curtain line to the back wall is 38 ft., and the width 60 ft., thus giving room for the production of large, complete scenic effects. The pit and gallery entrances are in High-street, and those to the dress circle and stalls are in Jackson-street. The dress entrance leads into a hall, from which the circle is reached by means of a marble staircase. The other entrances and staircases all have concrete steps. The ceiling of the auditorium and the fronts of boxes, circle, and gallery, are finished in fibrous plaster, richly coloured. The ceiling is covered with representations of Cupids and festoons, with clouds above. The exits are well arranged, and there are two to each floor, eight in all—including two from the stage. Each floor has separate suites of lavatories for ladies and gentlemen. Small refreshment-rooms are also provided on each floor. The artistes' dressing-rooms alongside the stage are fitted with hot and cold water. The buildings will be heated on the hot-water principle, and lighted by electricity, all the machinery for the installation being placed in a large cellar cut off from the rest of the building, so that no noise shall be heard in the auditorium. A plentiful supply of hydrants has been fixed in the building in case of fire. Mr. Wm. Hope, of Newcastle-on-Tyne, is the architect, and Mr. S. F. Davidson, of Heaton, the contractor for the whole of the buildings. The decorating and furnishing have been done by Messrs. Dean, of Birmingham, and the fittings in the hotel by Messrs. Sopwith, of Newcastle-on-Tyne, the electric installation by Messrs. Rowland Barnett, the heating by Messrs. Dinning & Cooke, and the plumbing by Messrs. Tweddle, of Newcastle.

Post-office, Hay.—A new post-office is in course of erection at Hay. It is built of red moulded and beaded brick with terra-cotta ornaments, and is to be fitted up with all the latest official improvements, which are being supplied by Mr, Henry Bessell, of Bristol. The architect is Mr. Ernest G. Davies, of Hereford, and the contractor Mr. George Meredith, Hay.

Additions, St. Giles', Willenhall.—A South Transept and South Chapel are to be added to this church, Mr. J. P. Baker, of Willenhall, being the architect. The corner-stone is to be laid by the Earl of Dartmouth on the 13th inst.

School Buildings, Porth, Glam.—The Intermediate Schools recently finished at Porth were opened on September 22. The school building, designed by Mr. Jacob Rees, of Ton, is intended to accommodate about 200 children, and it cost about 5,000*l*. The contractors were Messrs. Charles Jenkins & Sons, of Porth.

SANITARY AND ENGINEERING NEWS.

Water Supply, Birkenhead.—At a meeting of the Town Council, held on the 25th inst., to consider a report of the members of the Gas and Water Committee, specially appointed to inquire into the acquisition of the water rights, &c., of the Wirral Waterworks Company in the borough, the proposal to purchase that undertaking was negatived by 38 votes to 6.

Bursting of a Reservoir, Todmorden.—What is known as Staups dam, situate on the high land almost directly above Eastwood station, near Todmorden, burst on the afternoon of September 24, doing a great amount of damage. The dam has been almost empty during the summer, and the tremendous fall of rain of the past week has filled it with great rapidity, and the walls were not sufficient to withstand the sudden heavy pressure, and the embankment for nearly 20 yards was carried away. The large volume of water rushed down the hillsides with tremendous velocity, carrying down fences and tearing up the meadows. Some of the farm-houses were flooded to a depth of 4 ft. or 5 ft., and the people had to leave their dwellings in a precipitous manner. One mill, which, fortunately, was empty, was flooded to the depth of 4 ft. Several hundred pounds damage has been done. Fortunately, no lives were lost.—*Leeds Mercury.*

A Novel Method of Treating Sewage.—Some remarkable and successful results have attended a novel treatment of the sewage of the city of Exeter. The plan is that of Mr. Donald Cameron, City Surveyor, and it promises to be of great importance. The success that has attended the preliminary experiment at Exeter has led the City Council to authorise the construction of additional works for the treatment of the sewage of the whole parish of St. Leonard's, containing a population of 3,300. The works consist of four tanks, a fourth of the sewage passing into each. Light and air are excluded from the tanks; putrefaction and decomposition are rapidly set up, the microbes multiply, and the solid portions of the sewage are consumed, The outflow from the tanks is nothing but slightly coloured water, which, after passing through filters, loses all colour and taste. No chemical is used, and no attention to the tanks of any sort is needed. Each filter bed automatically cleanses itself by being out of use for a short time. The Exeter Council is so satisfied that it proposes to treat the whole of the city sewage by Mr. Cameron's method, thus freeing the river from impurity, and getting rid of the sewage without the least offence to any one. The outlay is comparatively small, and the permanent expense but very little.

Water Supply, Malvern.—The Local Government Board having announced that complaints had been made to them by several ratepayers of the insufficiency of water, arrangements were made for an official inquiry into the actual facts, and also to ascertain the nature of the proposals of the District Council for remedying the alleged deficiency. The inquiry was conducted by Colonel Coke, at the Barrett-Browning Institute, on September 19. In reply to several questions, in conclusion Colonel Coke said the water mains would have to be extended all over the district, and the minimum supply for the inhabitants would be 15 gallons per head daily.

FOREIGN.

France.—A statue of Catherine II., by M. Gustave Deloye, is to be placed in the garden of the Russian Ambassador, Rue de Grenelle, where the Emperor and Empress of Russia are to stay during their visit to Paris.——M. Roty has been commissioned to design a medal, commemorating the visit of the Emperor and Empress to Versailles. A model in gold will be presented to them.——It is finally decided that the new bridge on the Esplanade des Invalides shall be called the Pont Alexandre III., and the first stone will be laid by the Tsar on October 7.——M. Bernier is hastening on the works of the New Opéra Comique. The main walls are ready, and in a few days the sculptures will be in their places. The shell of the building is entirely finished, the galleries on the various stories are made, and the frieze at the top is completed.——The sculptor Alexandre Charpentier, who has so many beautiful things relating to Industrial Art in the Champs de Mars Salon every year, will this year, in December, have an exhibition entirely of his own works, comprising sculpture, lithographs, metal work, embossed leather, china, jewellery, &c.——Some excavations at Criquebeuf-sur-Seine have brought to light important Gallo-Roman remains, some medals and effigies of Vespasian and Antonius, and numbers of bronze statues, which all indicate that there was a Roman town there, towards the end of the Roman Empire.——The belfry of the little town of Lucheux, near Doullens, has just been classed amongst "Monuments Historiques."——The destruction of the ramparts round the town of Cambrai will unfortunately involve the loss of the Porte Notre Dame, which is a curious mixture of Spanish and Flemish Renaissance styles, and the Porte Berlaimont, which was built at the time of Louis XIII. The Porte de Paris, however, and the Tour de Caudron, and the Tour d'Abanconet, dating from the thirteenth century, are to be preserved.——Important works to the amount of 5,800 000 fr. are to be undertaken in the port of Marseilles, for the construction of quays and lowering of the Pinède basin.——M. Heubès (second Prix de Rome), Inspector of the Monuments of the Ville de Paris, has been chosen out of fourteen competitors to build the church of Saint Martin at Saint Dié.——The death is announced of Emmanuel Benner, artist, twin-brother of the well-known painter Jean Benner. He obtained a medal of the third class at the 1881 Salon, and a bronze medal at the 1889 Exhibition. This year he sent to the Palais de l'Industrie two pictures, "St. Gérôme," and "Dans la Bruyère," also several water-colours of the environs of Schœnbrun.

MISCELLANEOUS.

Advanced Evening Classes, University and King's Colleges.—The Councils of University College and of King's College, London, have, in conjunction with the Technical Education Board of the London County Council, arranged science courses to be held in the evenings for those students who are engaged in the day-time. They will include, at University College, Mechanical Engineering, Electrical Engineering, and Practical Chemistry; and at King's College, Civil Engineering, Architecture, Experimental and Practical Physics, and Pure Mathematics.

Andrews' Patent Treads.—This patent consists of an improved form of Hawksley's tread which has been so largely used for railway stations, warehouses, &c. It is formed of cubes of hard wood with the reed of the wood vertical and held together by a series of flat bars and bolts. These bars, which are of rolled iron or steel, are placed in between the various rows of blocks, and form, in fact, a number of small girders or joists which carry the load coming on the tread, the whole being held together by bolts and nuts at frequent intervals (about 1½ in. pitch). These treads, being formed of wrought-iron, are very strong, and it is stated that they will carry a considerably heavier load than any form of cast-iron frame-work, having been tested to three times the breaking-load of the old cast-iron type without showing any permanent set. They are made in various sections to suit the circumstances under which they are used—thus No. 1 secton, 1⅝ in. deep, is a self-supporting tread suitable for railway stations, warehouse, or School Board traffic; No. 2 section, 1½ in. deep, is used to place on stairs which have become much worn, in which case the new tread is laid on a level bed of cement, or other filling, and dowelled or screwed into the wood or stonework, as the case may be. The tread can be reversed when worn, back to front, and this operation can be repeated by turning the tread over.

Electric-Lighting Works, South Shields.—In reference to our notice of these (page 236 *ante*) Mr. F. Rennoldson, architect, of South Shields, writes that the statement that Mr. Jeckell planned the buildings is incorrect. He says:—"I throughout acted as architect to the building, and, except a rough plan showing the relative positions of the various departments, such as any person intending to build could have made, I had no assistance whatever from Mr. Jeckell. I enclose a similar communication which I made to a local paper, to which Mr. Jeckell has never replied, and the note added to same by the editor shows clearly where the blame lies."

Discovery of a Roman Altar, Warrington.—Whilst excavating upon the site of the supposed Roman station of Veratinum, at Wilderspool on September 18, Mr. Thos. May, of Warrington, discovered an interesting example of a Roman altar of soft red sandstone peculiar to the locality. The back of the stone is undressed, indicating probably that it was intended to be set up against a wall. It consists of three features, viz., a capital, a shaft, and a base, and the following are its dimensions:—The capital measures 12½ in. in length, 8½ in. in breadth, and about 5¼ in. in height; the shaft is 9¼ in. high, 11 in. wide, and 8½ in. thick; and the base is about 14 in. long, 10⅜ in. broad, and 6 in. high, so that the total height of the altar is only 20½ in., which is unusually small. The "focus" is near the middle of the summit, and on the front corners are two round ornamented bosses. Three round mouldings, separated by deep horizontal grooves and diminishing proportionately downwards, form the front part of the capital. There is a rude carving in high relief on the right side of the shaft, believed to represent

a pitcher. Many Roman antiquities have been discovered at Wilderspool, but this is the first altar found there.

BUILDING TRADE IN ABERDEEN.—The Aberdeen Town Council met on September 24, and sanctioned plans of nine new houses and alterations on a number of existing buildings, the total cost of the work being estimated at 8,000*l*. One of the plans was that of two new dwelling-houses for Messrs. Thom & Strachan, to be erected in Alford-place, to the west of the Free Church College. The block will be three stories high, with attics, and there will be four shops on the ground floor. Another plan sanctioned was a block on the Holburn-street side of the Free Church College.

THE HISTORIC SOCIETY OF LANCASHIRE AND CHESHIRE.—This Society's last excursion of the season was made on September 26 to Dunbury Church, Beeston Castle, and Peckforton. The party first visited Bunbury Church. Here at one time stood a Norman church, of which the only remaining traces are some fragments of carved stones which have been dug up in the churchyard. Mr. E. W. Cox was able to infer from these stones that the Norman church was probably a large and highly-ornamented structure, having a chancel arch of two orders carved in the familiar dog-tooth pattern, and that the walls of the chancel were in all probability beautifully diapered. The present building consists of nave, with north and south aisles, chancel, and south chapel, and a small north chapel now used as a vestry; at the west end of the nave is a fine tower. This tower, together with the chancel and north chapel, are in the Decorated style, and probably date somewhere between 1335 and 1350, and contain some very interesting tracery and mouldings. The nave, north aisle, south aisle, and south chapel are of the Perpendicular style, and were probably erected about the same period, in the reign of Henry VII. The south chapel is separated from the chancel by a stone screen, which has some armorial painting on it, and an inscription stating its erection by Ralph Egerton. Peckforton Castle was next visited. This structure was built on the plan of a Norman castle for Lord Tollemache by Salvin, and is exceedingly well carried out. The party on leaving Peckforton divided, part going over Beeston Castle, which was described by Mr. Hargreaves, the remainder to view Horsley Bath, an open-air stone bath fed by a spring, and said by tradition to be of Roman origin. Confirmatory evidence of this tradition is not forthcoming, the stonework being apparently the same date as a mural inscription—*i.e.*, 1634.

A CITY CHURCH DAMAGED.—The reopening of the Church of St. Mildred, Bread-street, which has been closed for cleaning and the installation of the electric light, will be delayed by a somewhat serious structural collapse, the exact extent of which has not yet been ascertained. The concrete floor, which covers the old burial vaults, has cracked and sunk, owing, it is believed, to the weight of the scaffolding erected for the purpose of cleaning the church. The damage may prove very serious, as vaults literally honeycomb the site on which the church is built. There is little likelihood of the church being reopened for the next six months.—*Morning Post*.

CASE UNDER THE LONDON BUILDING ACT.—At the North London Police-court, on September 22, Mr. Thomas Richards, solicitor, of 44, Finsbury-square, E.C., was summoned before Mr. Paul Taylor for a penalty in respect to an alleged irregularity in the erection of a block of buildings in Stoke Newington-road, of which he is the freeholder. The summons, which was taken out under the London Building Act of 1894, charged the defendant with disobeying a notice from the District Surveyor, to block up certain openings which had been made between the shops. The circumstances were as follows:—The buildings in question consisted of a row of six shops with dwelling rooms over, and which were described as flats. The original intention of the owner was that each shop and set of flats should be separate, but when the premises were offered for letting, a firm named Beavis took all the shops, intending to establish a co-operative stores. For their purposes, however, it was necessary that each shop should communicate. The freeholder thereupon undertook to make the necessary communications, and holes were cut in the walls and double iron doors were fitted to each party wall. The District Surveyor assented to the work being done, and was satisfied, until he discovered that the upper parts of the shops were being let out in flats. As the Building Act provides that doors can only be fitted to party walls in premises in one occupation, the District Surveyor proceeded against the builder for an irregularity, but the summons failed on the point that the builder had left the premises at the time the notice was served. The defendant's counsel contended that the proceedings were out of time so far as the present defendant was concerned. Section 152 of the London Building Act provided that where the notice could not be served on the builder it should be served within twenty-one days upon the owner. In the present case he should prove that the work was completed on March 16, and that the notice of irregularity was not served on the freeholder until July 21 last. Counsel for the other side said he was afraid, on the section quoted, that the District Surveyor was out of time with these proceedings, but he wished to point out that the proceedings originally were taken against the builder, who was served with the notice within the legal period. The builder's summons was adjourned from time to time, and it was not until quite recently that it was decided to proceed against the freeholder. The Magistrate held that the case failed on the point that the notice was not served in accordance with the provisions of section 152. He also noticed that the summons was not taken out until September 17. The summons was therefore dismissed.

GLASGOW AND WEST OF SCOTLAND TECHNICAL COLLEGE.—The third holiday visit for the summer session of the architectural sketching class in connexion with the architectural courses of the college took place on Monday, when a good number of students, accompanied by Mr. James Lochhead, Instructor in the Studio, journeyed to Dunblane Cathedral. A few hours were spent there in sketching and measuring portions of architectural interest, after which the party proceeded to Stirling, where the East and West Churches, Guildhall, Mars' Work, Argyll's Lodging, and the Castle were in succession visited; the remainder of the day was occupied by the various members in sketching parts of these. This concludes what has proved to be a most interesting and successful series of visits.

LECTURES ON SURVEYING.—Mr. Henry Bushell, Lecturer on Surveying at the Birkbeck Literary and Scientific Institution, is about to commence a course of lectures on Land Surveying, with Field Work, and a course on Quantity Surveying. The first lecture on Land Surveying will be given on Tuesday, October 6, the first on Quantity Surveying the same day, and the first Field Work lesson on Saturday, October 10.

CAPITAL AND LABOUR.

THE STRIKE AT SCARBOROUGH.—The strike of labourers at Scarborough, which has paralysed the building trade of the town for the past nine weeks, has practically ended, masters and men having consented to refer the dispute to two arbitrators and an umpire, whose decision shall be binding. The labourers, who struck for an advance of wages from 5½d. to 6d. per hour, resumed work on Monday last, and the employers have agreed to pay the advance for the resumption of operations should the arbitration go in favour of the men.

MEETINGS.

SATURDAY, OCTOBER 3.

Sanitary Inspectors' Association.—Annual General Meeting, Carpenters' Hall. 6 p.m.

Sanitary Institute.—Inspection of Sewage and Destructor Works, Ealing. 2.15 p.m.

London and Provincial Builders' Foremen's Association.—Visit to Blackwall Tunnel Works. 3 p.m.

Sanitary Institute.—Demonstration to Sanitary Officers: Ealing Sewage and Destructor Works. 2.15 p.m.

MONDAY, OCTOBER 5.

Society of Engineers.—Mr. W. G. Wales on "Discharging and Storing Grain." United Service Institution, 7.30 p.m.

Sanitary Institute.—Dr. Winter Blyth on "Supervision of Food Supply." 8 p.m.

WEDNESDAY, OCTOBER 7.

Sheffield Society of Architects and Surveyors.—Conversazione, Cutlers' Hall. 7 p.m.

Builders' Foremen and Clerks of Works' Provident Institution.—Ordinary meeting. 8 p.m.

FRIDAY, OCTOBER 9.

Architectural Association.—President's opening address. 7.30 p.m.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

16,144.—WATER WASTE PREVENTERS: *J. K. Oldfield.*—In a perpendicular cistern, with either square or round horizontal section, inventor fixes a spindle valve capped, and screwed through to bottom, screw sufficiently long to attach socket and pipe for flushing, and spindle to go up through cistern and stand up above top. Water-supply valve is fixed at the top of cistern, but in place of usual floating ball, inventor uses a loose air-tight float with tube through the centre for valve spindle to work in; said spindle being attached to valve at bottom by screwing through weights.

16,431.—DEVICES FOR UNFASTENING DOORS, &c.: *W. Müller.*—Consists in the fixing of the catch or catch-plate of a lock to the door-post by means of a bolt or rod in such manner that by the withdrawal of said bolt by hand or electricity the catch is released from door-post so that it can be opened without the use of a key.

17,218.—DISCHARGING APPARATUS FOR FLUSHING CISTERNS, WATER-CLOSETS, &c.: *G. Chisholm.*—Substantially invention consists in the combination in an overhead flushing cistern of a double "swan neck" or M-shaped syphon trap, and a ball lever air valve, variously modified according to requirements.

17,680.—WATER-CLOSETS, SLOP-SINKS, &c.: *S. B. Chantrill.*—Inventor claims in water-closets, slop-sinks, &c., the combination of an inlet for the water at the back of the basin, a flushing-rim connected with the inlet, and a taper chamber for the purpose of cleansing the basin.

20,269.—WATER-FLUSHING CISTERN: *J. C. Johnson.*—In an air-tight chamber, which forms the cistern, inventor fixes a pipe reaching from the top nearly to the bottom; at top of this is a two-way valve or tap, communicating with both supply and discharge of flushing pipe. When the water from the main passes into the cistern through the pipe it compresses the air enclosed until it reaches the pressure of the water behind it; and it remains so until the tap is turned to discharge, and then the water is forced by the compressed air back up the pipe and out of the discharge-valve until the cistern is emptied.

20,361.—TOOL HANDLES: *C. W. Clark.*—Inventor forms the part of handle into which the tool fits cylindrical and slightly taper, with a cross slot to receive end of shank of tool. Tool is inserted in the slot, and socket then pushed on the taper part of the handle, securing tool firmly.

9,237.—COMBINATION HAND TOOLS: *R. Teichmann.*—Invention consists in a combination hand tool, comprising a spanner having on one side of its handle the operative screw, and on the other side a cavity for the reception of sundry specified tools apparently specially useful to cyclists.

13,886.—WHITE LEAD MANUFACTURE.—*W. P. Tatham and another.*—Inventors by their new process add litharge to a solution of acetate of lead until a mass of crystals of tri-basic acetate of lead has been formed, and then expose the said mass to the action of carbonic acid gas. Invention is claimed to be particularly economic.

NEW APPLICATIONS FOR LETTERS PATENT.

SEPTEMBER 14.—20,289, T. Osborne and W. Wiseman, Window Frames and Sashes.—20,293, W. Nott, Sheet Metal Holdfast for securing Glass in the Glazing of Conservatories, Greenhouses, &c.—20,322, A. Budden, Conical Plug for temporarily stopping Cisterns, &c.

SEPTEMBER 15.—20,345, J. Thorneloe, Windows.—20,363, J. Buckley, Fittings for Gates and Doors.—20,432, J. Grunhut, Artificial Stone.—20,439, J. Newell, Preparing Granulated Glass for Tiles, Facing Bricks, Wall Panels, &c.—SEPTEMBER 16.—20,441, A. McMair, Door Handles, &c.—20,464, N. Simmons, Water-closets.—20,508, A. Wakefield, Gully Traps.—20,511, R. Britton and F. Germain, Apparatus for dove-tailing.

SEPTEMBER 17.—20,536, D. James, Automatic Reverse Lock.—20,540, G. Puttergill, Shape of Woodworkers' Wood-smoothing Planes.—20,574, R. Bell and T. Flynn, Window Sashes.—20,578, V. Barrett-Lennard, Non-Slipping Device for Wood-Paving Blocks.—20,586, E. Holden, Automatically-closing Gates, Doors, &c.—20,612, P. Kleber, Artificial Stone.

SEPTEMBER 18.—20,650, P. Frazer, Secret Locking Cockspur or Casement Fastener for Wood or Metal Casements.—20,661, J. Entwistle, Window-Sash Fastener.—20,665, A. Eungblut and E. Crouch, Window and Door Fastener.—20,689, A. Benton, Window Sashes.—20,693, C. Trenchmann, Manufacture of Cements, Whiting, &c.

SEPTEMBER 19.—20,734, A. Cameron, Opening Windows Inwardly.—20,739, G. Newman, Attachment for Opening and Closing Fanlights, &c.—20,743, D. Boyce, Tilt Flusher for Water-closets and Drains.—20,790, M. Strüdel, Chimneys.—20,801, E. Edwards, Apparatus for Raising Doors on their Hinges.

PROVISIONAL SPECIFICATIONS ACCEPTED.

14,423, J. Moore and W. Lyman, Gravity Locks.—15,836, C. Armstrong, Dripless Tap.—18,541, C. Hoffman, Door and Window Fastener, &c.—18,931, A. Studd, Alarms for Doors.—18,989, A. Billing, Knobs or Feet for Looking-glasses, Overmantels, &c.—19,424, J. Spragg and W. Bowler, Hooks for securing Lead Flashings, Water-pipes, Gas-pipes, &c.—19,562, J. Jones, Bricks.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to opposition for two months.

21,599, A. Morrison, Combined Door Stops and Holders.—21,641, J. Ely, Construction of Glazed or Glossy Surfaces for Walls, Ceilings, &c.—22,175, H. Kerr, Slip Bolts or Fasteners.—9,416, J. Kershaw, Appliance for Use in Connection with Drain, Sink, and Other Pipes.—16,295, R. Soar, Sanitary Pipes.—17,512, W. Elston, Cowls.—17,739, A. Furness, Interlocking Tiles.—17,749, E. Podmore, Securing Sheets of Zinc or other Material for Roofing Purposes.

SOME RECENT SALES OF PROPERTY.

ESTATE EXCHANGE REPORT.

September 11.—By FOLEY, SON, & MUNDY (at Warminster).

Chitterne, Wilts.—"The White Hart Inn," and 1 acre, f.	£2,000
"The King's Head Inn," and 2 r. 26 p., f.	1,350
Two freehold cottages, and 2 r. 1 p.	138

September 14.—By H. HOOPER (at Brixton).

Brixton.—56, Crasster-rd., u.t. 79½ yrs., g.r. 7*l.*, r. 40*l.*	380
103, 113, 117, and 119, Elm Park, u.t. 79½ yrs., g.r. 28*l.*, r. 140*l.*	1,340
2 and 16, Medora-rd., u.t. 79½ yrs., g.r. 14*l.*, r. 75*l.*	675

September 15.—By S. & G. KINGSTON (at Spalding).

Cowbit, Lincs.—A freehold house, cottage, and 25 a. 2 r. 14 p.	1,170
Enclosures of land, 18 a. 2 r. 35 p., f.	660

By RENDALL & SYMONS (at Kingsbridge).

Churchstow, Devon.—"Holditche's Farm," 75 a., f.	2,310
Enclosures of land, 23 a., f.	745

By HOLLOWAY, PRICE & SON (at Market Harboro').

Saddington, Leicester.—"Goodman's Farm," 70 a., f.	3,000

EDWARDS, SON & BIGWOOD (at Bromsgrove).

Bromsgrove, Worcester.—16, 17, 18, 23 and 24, Stourbridge-street. Twelve houses in Foundry-yard and a building plot, f.	1,551
Stourbridge-rd., "Garden Farm," 20 a. 1 r. 29 p., f.	1,950
Stourbridge-rd., two houses and two building plots, f.	830
Stourbridge-rd., "The Hundred House Inn," and three houses adjoining, f.	1,700
Perryfield-lane, &c., four houses and a cottage, f.	730
Perryfield-lane, enclosures of land, 38 a. 1 r. 17 p., f.	1,925
Stourbridge-rd., "The Brooklands," and 32 a. 2 r. 36 p., f.	4,000
Fockbury, "Fockbury Mill," and 54 a. 1 r. 17 p., f.	2,850
Fockbury, enclosure of land, 44 a. 2 r. 19 p., f.	2,745
Fockbury, two houses and cottage, f.	380
Catshill, enclosures of land, 24 a. 0 r. 6 p., f.	1,045
Catshill, four cottages, with nail shops, f.	340
Bournheath, freehold residence, two cottages, and 13 a. 2 r. 9 p., f.	1,620

By J. & A. BRAY (at Hastings).

Hastings, Sussex.—6 and 6A, Bank Buildings and Memorial Hall, f., r. 229*l.*	4,000

September 17.—By W. BRADLY (at Bexley Heath).

Bexley Heath, Kent.—1, 2, and 3, Victoria-cottages, f., r. 35*l.* 2s.	260

September 18.—By FRANKLIN & JONES (at Wallingford).

Brightwell, Berks.—Enclosures of land, 16 a. 1 r. 4 p., f.	340

September 16.—By P. HODSON.

Finsbury Park.—7, Endymion-rd, u.t. 81 yrs., g.r. 12*l.* 12s., e.r. 90*l.*	800

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Designs for Workmen's Dwellings	Sunderland Corp.	30l. 20l. and 10l.	Nov. 14
*Laying-out Building Estate	Southend Estate Darlington	35l. and 15l.	Nov. 20
*Designs for Municipal Buildings	Douglas Corporation	40l. 20l. and 10l.	Nov. 21

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Road Metal	Stockport R.D.C.	H. H. Turner, Surv.	Oct. 3
Laundry Buildings	Bury St. Edmund's Steam Laundry Co.	New & Mayne, Engr. Palace chambers, Westminster	Oct. 6
Passenger Station, Chalford, Glos.	G. W. R. Co.	G. K. Mills, Paddington Station, W.	do.
School, Chyvelah, Cornwall	Kenwyn School Board	S. Trevail, Archt. Truro	do.
Fire Engine House, Silverhill, Hastings	St. Matthew's Parish Council	Jeffrey & Skiller, Archt. 5, Havelock-road	do.
Underground Conveniences, Bridgewater-street, &c.	Manchester Corp.	City Surv. Town Hall	do.
Flint Road Metal, near Salisbury	Amesbury R.D.C.	J. T. Huxham, Surv. Amesbury	do.
*Kerbing, Tarpaving, &c.	Southend Corp.	H. Harlock, Boro' Surv. Clarence-road	do.
Sewer, Hampden-street, &c.	Prestwich(Lancs)U.D.C	T. Nuttall, C.E. 20, Market-place, Bury	do.
Sewer, Broom-lane, Whickham, Durham	Whickham U.D.C.	J. McGregor, Surv. 81, Second-street, Bensham, Gateshead	do.
House, Greenmoss, Auchnagatt, Aberdeen	.....	Jenkins & Marr, C.E. 16, Bridge-street, Aberdeen	do
Additions to Police Buildings, Canterbury	.....	City Surv. 28, St. Margaret's-street	do.
Wesleyan Church, Ilkeston	.....	G. Haslam & Son, Archt. Euclid House, Ilkeston	Oct. 7
Levelling, &c. Ripley-road	Old Swindon R.D.C.	W. E. Morris, Surv. Devizes-road	do.
Business Premises, Berwick	W. C. Caverhill & Co.	J. Stevenson & Son, Archt. Berwick-on-Tweed	do.
*Guernsey Granite and York Paving	Mile End Vestry	J. M. Knight, Vestry Hall	do.
Lighthouse Keeper's Dwelling, Siren House, &c. Roche's Point, co. Cork	Com. of Irish Lights	O. Armstrong, Irish Lights Office, Dublin	Oct. 8
School and House, near Boston, Lincs.	Eastville School Board	T. Ward, Clerk, New Town Spilsby	do.
Additions, &c. Sawyer's Arms Hotel, Kendal	R. & P. Hartley	S. Shaw, Archt. Kendal	do.
*Houses, Glebe-road, Bromley, Kent	.....	F. & W. Stocker, Archt. 90, Queen-street, E.C.	do.
Additions, &c. to Town Hall	Brighton T.C.	F. J. C. May, C.E. Town Hall	Oct. 9
*Erection of House	Kensington & Chelsea School District	C. Sharp, 39, Fenchurch-street, E.C.	do.
Sewerage Works, Framfield	Uckfield R.D.C.	J. Taylor, Surv. Henley House, Uckfield	do.
do. House, &c. Connswater, Belfast	Belfast Ropework Co.	Graeme-Watt & Tulloch, Archt. 77a, Victoria-st. Belfast	Oct. 10
Stone Bridges, Dorstone, Herefordshire	Bredwardine R.D.C.	C. Griffith, Clerk, Council Offices	do.
Culvert, Cliffe-hill, Markfield, Lincs.	Market Bosworth R.D.C	W. Thorpe, Surv. Nailstone, Nuneaton	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
*Granite Kerb and Tram	Broadstairs & St. Peters U.D.C.	H. Hurd, Town Surv. Broadstairs	Oct. 10
Road Works, Fitzharris-road, &c	.....	F. W. Lacey, Boro' Engr.	do.
Bournemouth	Highley (Salop) Sch. Bd.	R. Scrivener & Sons, Archt. Howard-place, Hanley	Oct. 12
School Buildings	Clitheroe (Lancs.)Corp.	J. E. Sharpe, Boro. Surv.	do.
Kerbing, &c.	Harrow (U.D.)Sch. Bd.	Houston & Houston, 15, Funnivals-inn, E.C.	Oct. 13
*Alterations to School	Dover T. C.	E.W. Knocker, Town Clerk	do.
Stables, &c. Tower Hamlets-rd.	Lewisham Bd. of Wks	The Surv. Bd of Works Office, Catford, S.E.	do.
*Kerbing, Tarpaving, &c. &c.	Met. Asylums Board	T. W. Aldwinckle, 1, Victoria-st. S.W.	Oct. 14
*Ambulance Station, Stockwell	Listowel (Ireland) Union	W. MacMahon, Builder, Listowel	Oct. 15
Residence	Merthyr Tydfil Union	C. A. Johnson, Abergavenny	Oct. 16
*Infirmary	Southend Waterworks Co.	Waterworks Office	Oct. 17
*Drawing and Stop Cocks	Swansea (U.D.) Sch. B.	G. E. T. Lawrence, 181, Queen Victoria-st. E.C.	do.
*Alterations, &c. to School	Paddington Vestry	Surveyor, Vestry Hall	Oct. 19
*Brick Sewers	Gelligaer Sch. Bd.	James & Morgan, Archt. Charles-st. Chambers, Cardiff	do.
Alterations to Schools, Bedlinog, Wales	Commrs. H.M. Works	12, Whitehall-place, S.W.	Oct. 20
*Post Office, London, W.C.	Dover Union	Cresswell & Newman, 54, Castle-street, Dover	Oct. 21
*Kitchens, Laundries, &c. at Workhouse	East Grinstead U.D.C.	R. Grantham & Son, Northumberland-avenue Chambers, W.C.	do.
*Drainage, Sewer Pipes, &c.	Hyde Corporation	Woodhouse & Willoughby, 100, King-street, Manchester	Oct. 22
*School and Free Library	Leeds Corp.	W. Hanstock, Archt. Branch-rd. Batley	Oct. 27
Public Baths, Hunslet	St. Mary Stratford Bow Vestry	E. Harmer & Pinches, 5, John-st. Adelphi, W.C.	Oct. 29
*Movable Floor and Platform	C. Wilson & Sons	W. A. Hobson, Archt. 82, Albion-street, Leeds	No date
Factory, Armley, Leeds	W. J. Martin	W. J. Moore, Archt. Arnst. Belfast	do.
Improvements to Business Premises, Glengall-street, Belfast	Hartington Upper Quarter Sch. Bd.	W. R. Bryden, Archt. 1, George-st. Buxton	do.
Additions to Schools, Harpur Hill, Buxton	Nottingham Turkish Bath Co.	Brewill & Baily, Archt. Angel-row, Nottingham	do.
Turkish Baths, Parliament-st. &c.	.....	W. T. Hampton, Surv. Brook Ho. Loughborough	do.
Inn, Kegworth	.....	S. Keith & Son, Archt. Dundee	do.
Two Semi-detached Houses, Northmuir, Kirriemuir, N.B.			

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised	Salary.	Applications to be in.
*Borough Surveyor	Guildford T.C.	250l. rising to 300l. per ann.	Oct. 12
*Two Assistant Sanitary Inspectors	Bermondsey Vestry	130l. rising to 175l. per an.	do.
*Second-class Assistant Surveyor	Civil Service Commrs.		Oct. 21

Those marked with an asterisk (*) are advertised in this Number. *Competitions, p.* iv. *Contracts, pp.* iv., vi., *&* viii. *Public Appointments, pp.* xviii. *&* xxi.

Kilburn.—8 and 10, Percy-rd., u.t. 85 yrs., g.r. 30l.. £350
15, Ariel-rd., u.t. 70½ yrs., g.r. 8l., r. 40l. 285
2, Fordwich-rd., u.t. 83 yrs., g.r. 8l., r. 50l. 415
13, Fordwych-rd., u.t. 84 yrs., g.r. 8l., r. 45l. 500
Fulham.—4, 6, and 8, Foskett-rd., u.t. 86½ yrs., g.r. 15l. 725
Hornsey.—30 and 39, Waldegrave-rd., u.t. 88 yrs., g.r 11l. 5s., r. 44l. 350
164 and 166, Nelson-rd., u.t. 88 yrs., g.r. 15l., r. 70l. 540
Wandsworth.—2 to 8, Portslade-rd., and 1a, 2a, 3a, Gonsalva-rd., also l.g.r. 5s., u.t. 30 yrs., g.r. 44l. 920
Blackfriars.—56 to 64, Cornwall-rd., and 1 and 2, Druce's-place, u.t. 12½ yrs., g.r. 65l., r. 353l. 15s. 790
Leyton.—44 and 46, Calderon-rd., u.t. 85 yrs., g.r. 12l., r. 44l. 250
Bethnal Green.—34 to 48 (even), Summerford-st., u.t. 29 yrs., g.r. 40l. 900
Leytonstone.—105 to 129 (odd), Cann Hall-road, f. 3,255
Hackney.—2, 4, 6, and 8, Trelawney-rd., u.t. 53 yrs., g.r. 12l. 1,200

By Worsfold & Hayward (at Dover).

Caple-le-Ferne, Kent.—"Caple Farm," 25 a. 2 r. 2 p., f. 860
Dover, Kent.—3, 4, and 5, Chapel-lane, f. 620
4, York-st., f., r. 18l. 370
44, Clarendon-st., f., r. 18l. 250
68, Limekiln-st., u.t. 38½ yrs., g.r. 4l., r. 19l. ... 170
11, Durham-pl., f. 185
8, Herbert-ter., f. 150

September 19.—By Woodhams & Son (at Hastings).

Ewhurst, Sussex.—"Lordine Court" Farm, 103 a. 1 r. 32 p., f. 2,020
"Stocklands Farm," 36 a. 2 r. 3 p., f. 490
A copyhold farm, comprising 41 a. 2 r. 20 p. 485
Enclosures of land, 43 a. 2 r. 21 p., c. 400

By Bruton, Knowles, & Priday (at Gloucester).

Gloucester.—11, Eastgate-street, f. 4,100
Churchdown, Glos.—"Annandale Lodge," and about 2 a., f. 1,650

September 22.—By Bean, Burnett, & Eldridge.

Hornsey.—Crouch Hill, f.g.r., 102l. 18s., reversion in 94 yrs. 3,285
Dickenson-rd., f.g.r., 50l. 12s., reversion in 94 yrs. 1,590

By V. Vaughan.

Notting Hill.—Boundary-rd., f.g.r. 16l., reversion in 72 yrs. 420
Poplar.—Brabazon-st., f.g.r. 9l., reversion in 66 yrs. 230

By Bruton, Knowles, & Priday (at Stroud).

Painswick, Glos.—"Turners," and 6 a. 2 r. 14 p., c. 665

By Brown & Foulkes (at Amersham).

Chesham Bois, Bucks.—Freehold farmhouse and 6½ a. 690
Five building sites, about 4½ a., f. 470
Enclosures of land, 7 a. 1 r. 0 p., f. £525
Seven building sites, about 2½ a. f. 530
Two cottages and enclosures, about 1¾ a. f. 395
Twenty-six building plots, f. 617
Enclosures of land, 32 a. 3 r. 13 p., f. 1,125

September 23.—By Beal & Myrtle.

Lee.—134, Burnt Ash Hill, u.t. 68 yrs., g.r. 9l. 9s. 305

By E. W. Richardson & Son.

De Beauvoir Town.—40 and 42, De Beauvoir-rd., u.t. 36½ yrs., g.r. 12l. 10s., r. 91l. 840
Willesden.—11, Stonebridge Pk., u.t. 73½ yrs., g.r. 12l. 10s., r. 60l. 500
New Southgate.—Friern-lane, "The Woodlands," f., e.r. 100l. 1,700

By Rutley, Son, & Vine.

St. Pancras.—61 and 63, Charrington-st., u.t. 25½ yrs., g.r. 10l., r. 100l. 765
Holloway.—36, Tremlett-grove, u.t. 77 yrs., g.r. 7l. 7s.. e.r. 45l. 420
Crouch-end.—121, Park-rd., u.t. 89 yrs., g.r. 4l. 10s., r. 26l. 225
9, Drylands-rd., u.t. 91½ yrs., g.r. 6l. 10s., e.r. 32l. 250
Wandsworth.—48, Bucharest-rd., u.t. 92 yrs., g.r. 5l. 10s. 155
Mile End.—21 to 31 (odd), Edward's-rd., u.t. 80 yrs., g.r. 60l. 350

By E. Tompkins.

Brockley.—Hazeldon-rd., i.g.r. 10l., u.t. 81 yrs., g.r. 4l. 115
Croydon.—34 to 44 (even), Napier-rd., u.t. 79½ yrs., g.r. 31l. 10s. 225

By Herring, Son, & Daw.

Fulham.—Dawes-rd., &c., f.g.r. 129l. 3s., reversion in 83 yrs. 3,800
Dawes-rd., f.g.r. 37l. 16s., reversion in 83 yrs. .. 1,100
Burnthwaite-rd., f.g.r. 183l. 15s., reversion in 83 yrs. 5,250
Canning Town.—Balaam-st., f.g.r. 22l. 10s., reversion in 84 yrs. 620
Barking-rd., f.g.r. 21l., reversion in 84 yrs. 570
Liddon-rd., f.g.r. 44l. reversion in 84 yrs. 1,280
Newman-rd., f.g.r. 16l., reversion in 84 yrs. 400
Hornsey.—Raleigh-rd., f.g.r. 65l., reversion in 86 yrs. 1,830
Wimbledon.—High-st., &c., f.g.r. 75l. 12s., reversion in 83 yrs. 2,170
Merton-rd., f.g.r. 67l. 10s., reversion in 83 yrs. 1,820

By Douglas Young.

Poplar.—Grundy-st., "The African Tavern," f.r. 70l. 1,620
219, East India Dock-rd. f.r. 50l. 1,070
Bermondsey.—284, 286, and 288, Southwark Park-rd., u.t. 60 yrs., g.r. 8l. 13s. 4d., r. 135l. 780
Leyton.—Morley-rd., four building plots, f. 168
Claude-rd., nineteen building plots, f. 886
Francis-rd., eight building plots, f. 390
Murchison-rd., ten building plots, f. 440
Kilburn.—157, High-rd., u.t. 68½ yrs., g.r. 12l., r. 90l. 1,220
Clapham.—165, Clapham-rd., f., e.r. 90l. 1,320
Battersea.—9, Worsall-st., u.t. 69½ yrs., g.r. 4l. 10s. £160

By Humbert, Son, & Flint (at Watford).

Watford, Herts.—St. Albans-rd., &c., 101 building plots, f. 4,939

By H. C. Bigden (at Battersea).

Battersea.—10 and 12, Granfield-st., u.t. 84 yrs., g.r. 6l. 10s. 220

Contractions used in these lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square: pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.

Greenheart, B.G.	ton	£5/5/0	0/0/0
Teak, E.I.	load	11/0/0	16/0/0
Sequoia, U.S.ft.cu		2/0	2/1
Ash, Canada	load	2/15/0	4/0/0
Birch, do.		3/5/0	5/0/0
Elm, do.		3/10/0	4/15/0
Fir, Dantsic, &c.		1/15/0	3/15/0
Oak, do.		2/10/0	3/10/0
Canada		5/0/0	6/10/0
Pine, Canada red		0/0/0	0/0/0
Do. Yellow		2/0/0	4/5/0
Lath, Dantsic, fath		4/10/0	5/10/0
St. Petersburg		5/0/0	6/10/0
Wainscot, Riga &c., log		2/0/0	4/5/0
Odessa, crown		2/0/0	4/5/0
Deals, Finland 2nd & 1st std	100	7/10/0	9/0/0
Do. 4th & 3rd		7/10/0	8/10/0
Do. Riga		7/0/0	8/0/0
St. Petersburg, 1st yellow		10/10/0	13/0/0
Do. 2nd yellow		8/10/0	10/10/0
Do. white		9/0/0	12/10/0
Swedish		7/10/0	16/0/0
White Sea		8/10/0	15/10/0
Canada, Pine 1st		22/0/0	22/10/0
Do. do. 2nd		15/0/0	16/0/0
Do. do. 3rd, &c.		7/10/0	10/0/0
Do. Spruce, 1st		8/0/0	9/10/0
Do. do. 3rd and 2nd		6/10/0	7/10/0
New Brunswick		6/0/0	7/0/0
Battens, all kinds		9/0/0	20/0/0
Flooring boards, sq., 1 in. prep. 1st		0/3/6	0/14/6
Do. 2nd		5/0/0	11/6/0
Other qualities—		0/4/6	0/6/0
Cedar, Cuba, ft.		1/4	1/5
Honduras, &c.		1/4	1/5
Mahogany, Cuba		1/4	1/6
St. Domingo cargo av.		1/1	1/3
Mexican, do. do.		1/4	1/5
Tobasco, do. do.		1/5	1/7
Honduras, do.		1/5	1/6
Box, Turkey	ton	4/0/0	15/0/0
Rose, Rio		7/0/0	15/0/0
Bahia		8/0/0	13/0/0
Satin, St. Doming		0/0/7	0/1/0

TIMBER *(continued).*

Satin, Porto Rico		0/0/7	0/1/6
Walnut, Italian		0/0/3	0/0/7

METALS.

Iron—Pig, in Scotland	ton	2/6/2½	2/6/3
Bar, Welsh, in London		5/15/0	5/17/6
Do. do. at works in Wales		5/10/0	5/12/6
Do. Staffordshire, in London		5/15/0	6/10/0
COPPER—British cake and ingot		51/0/0	51/10/0
Best selected		57/0/0	58/10/0
Sheets, strong		56/0/0	57/0/0
Chili bars		47/16/3	0/0/0
YELLOW METAL		0/0/4-13/16	0/0/5
LEAD—Pig, Spanish	ton	11/6/3	11/7/6
English com. brands		11/10/0	11/12/6
Sheet, English 6 lbs. per sq. ft and upwards		12/10/0	0/0/0
Pipe		13/0/0	0/0/0
ZINC—English sheet	ton	20/0/0	0/0/0
Vieille Montagne		21/0/0	0/0/0
Spelter		16/17/6	0/0/0
TIN—Straits		57/18/9	0/0/0
Australian		59/0/0	59/10/0
English Ingots		61/10/0	63/0/0
Banca		60/10/0	61/0/0
Billiton		59/15/0	60/0/0

OILS.

Linseed	ton	16/10/0	0/0/0
Cocoanut, Cochin		27/0/0	0/0/0
Do. Ceylon		23/10/0	0/0/0
Palm, Lagos		23/10/0	0/0/0
Rapeseed, English pale		25/10/0	26/0/0
Do. brown		24/0/0	24/10/0
Cottonseed ref.		25/10/0	26/10/0
Olaine		25/0/0	26/0/0
Lubricating U.S.		0/6/0	0/7/3
Do. black		0/4/9	0/6/0
TAR—Stockholm	barrel	1/6	0/0/0
Archangel		0/12/6	0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

ABERDEEN (N.B.).—Accepted for the execution of street works, Woodside, for the Town Council. Mr. Wm. Dyack, Borough Surveyor, Town House, Aberdeen:—

J. Leith, Union-street, Aberdeen	£	s. d.
Queen-street	131	3 0
King-street	73	9 5
Grandholm-street	111	6 3
Gaelic-lane	110	2 6
Marquis-road	992	11 2

ABERDEEN (N.B.).—Accepted for repaving Albyn-place, for the Town Council. Mr. Wm. Dyack, Borough Surveyor, Town Hall, Aberdeen:—
J. McAdam & Sons, Aberdeen £3,621 2 0

AMBLE (Northumberland).—For the supply of 220 tons broken whinstone, for the Urban District Council:—
J. Richardson, Lime Works, Littlemill ..... 7s. 2d. per ton.
[Delivered at Amble.]

BARKING (Essex).—For the erection of two houses, Linton-road, for Mr. W. Glenny. Mr. F. J. Sturdy, architect, 44, Finsbury-pavement, E.C.:—

Norton	£1,542	Sayers & Son	£1,438
Hearle & Farrow	1,497	Watson	1,150
Hosking	1,479		

BERWICK-UPON-TWEED.—For the supply of 200 tons whinstone setts, for the Sanitary Authority. Mr. R. Dickinson, surveyor, Sanitary Authority-buildings, Berwick-upon-Tweed:—
M. Appleby, Embleton, Chathill ..... 12s. 6d. per ton.

BLACKBURN.—For the execution of water-supply works, for the Withnell Urban District Council. Mr. T. Beaver, Surveyor, Brinscall. Quantities by Surveyor:—
Contract No. 6.
Geo. Yates, Chorley, as per schedule of prices.
Nos. 7 *and* 8.
Thomas Duxbury, Manchester, as per schedule of prices.

BODMIN.—For the erection of store premises at the Cornwall County Lunatic Asylum:—
Grose & Brown, Bodmin £1,970

CARDIFF.—For alterations to the "Greyhound Inn," Bridge-street, Cardiff, for Mr. John Weare. Mr. Sidney Williams architect, Borough Chambers, Wharton-street, Cardiff. Quantities by the architect:—

E. R. Evans & Bros.	£556 0	Jones Bros.	£459 0
J. Allan	520 0	S. Shepton & Son	454 10
F. Small	495 0	G. Griffiths	390 0
A. Lewis	475 0	Reese & Thomas*	380 0

[All of Cardiff.]
* Accepted.

CINDERFORD (Glos.).—For the erection of the third section of St. Stephen's church, viz., organ chamber and vestry. Mr. E. H. Largen Barker, architect:—

Coleman	£198 0 0	Parry, Cinderford*	£121 0 0
Nutty	160 16 9		

* Accepted.

DEVONPORT.—For the construction of a sewer, St. Aubyn-street, for the Town Council. Mr. J. F. Burns, Borough Surveyor, Municipal Offices, Ker-street, Devonport. Quantities by Mr. A. Campbell Hodge:—

H. Kerswill	£486 0 0	W. C. Shaddock	£460 11 8
A. N. Coles	475 0 0	C. L. Duke, Plymouth*	453 12 1

* Accepted.

DEWSBURY.—For the erection of furnishing-shop, &c., Halifax-road, for the Pioneers' Industrial Society, Limited. Messrs. Holmes & Fox, architects, Westgate, Dewsbury:—

	£	s.
Excavating, Masonry, and Brick Laying.—Wm. Scott & Sons, Dewsbury	1,467	0
Joinery.—Fothergill & Schofield, Batley Carr	938	0
Iron Work.—J. Bagshaws, Limited, Batley	467	0
Plumbing.—F. Newsome, Dewsbury	362	0
Slating.—W. H. Thompson, Dewsbury	80	15
Plastering.—W. Parker, Heckmondwike	29	10
Painting.—N. Ramsden, Dewsbury	52	9

EASTHAMPSTEAD (Berks).—For the erection of stabling, &c., at sewage farm, Longshot-lane, for the Rural District Council. Mr. Harry Lloyd, Crowthorne, architect. Quantities by the architect:—

J. B. Seward	£263 0	W. J. May	£232 0
W. Stokes	243 16	B. G. Green	228 13
R. Pack	237 0	G. East, Benfield*	225 0

* Accepted.

EBBW VALE (Mon.).—For the construction of a conduit under road at Cwn (Contract No. 5), for the Urban District Council. Mr. T. J. Thomas, Engineer, District Council Office, Ebbw Vale:—
Contract No. 1.—*Pipes.*
T. Spittle, Ltd., Newport, Mon. £707 16 6
Contract No. 2.—*Valves.*
Glenfield Co., Kilmarnock 134 9 0
Contract No. 3.—*Pipe Laying.*
Batchelor & Snowden, Cardiff 355 17 9
Contract No. 4.—*House Services.*
Batchelor & Snowden, Cardiff 220 11 0
Contract No. 5.—*Conduit.*
Batchelor & Snowden, Cardiff 191 3 0

FARNBOROUGH.—For alterations, &c., to "George and Dragon" inn, for Messrs. Page & Overton, Limited. Mr. A. Broad, architect, 3, High-street, Croydon:—
Mid Kent Building Works £599 | W. Marriage & Co* £432
E. K. Palmer 530
* Accepted.

GATESHEAD.—For the erection of offices for the School Board. Mr. E. Bowman, architect, County Chambers, Westgate-road, Newcastle. Quantities by Mr. George Bell:—

Mitchison	£4,867	Davison	£3,740
E. & T. George	4,200	Pringle	3,697
Raven & Hitcham	4,011	Elliot	3,695
Lunn	3,859	Haswell & Waugh	3,670
Bewley	3,855	Woodall & Wilson	3,591
Tyrie	3,760	T. & R. Lamb, Gateshead (accepted)	3,482
Kirk & Brown	3,782	Turner	3,466
Baxter	3,745		

GREAT BERKHAMSTEAD.—For the erection of a water-tower, &c., for the Waterworks Company, Limited. Mr. A. F. Phillips, C.E., 36, Parliament-street, S.W.:—

Nash & Son	£407	Hollom & Son	£247
H. B. Gammon	317	Smith & Son	238
J. Payne	252		

HALIFAX.—For the construction of a new road from Water lane to Whitegate, for the Corporation. Mr. E. R. S. Escott, C.E., Borough Engineer, Town Hall, Halifax:—

T. Kitchen	£4,395	H. Tyson, Warley-road, Halifax*	£2,966
D. Brook & Son	3,493		
T. Bower	3,382		

* Accepted.
[Engineer's estimate, £3,200.]

HEAPHAM (Lincs.).—For the erection of Wesleyan chapel, for the trustees. Messrs. Eyre & Southall, architects, Retford:—

W. Colley	£487	T. Hopkinson	£407
C. M. Greenwood	463	J. Woods (accepted)	393

HEREFORD.—For the erection of isolation wards at the General Infirmary. Messrs. Nicholson & Hartree, architects, Hereford:—

H. Smith	£1,474	W. Powell	£1,375
R. Morgan	1,468	Bowers & Co.	1,334
W. P. Lewis & Co.	1,428	Beavan & Hodges	1,339

ISLEWORTH.—For the construction of roads and sewers on the St. John's Park estate, for the National Land Corporation, Limited. Messrs. Pooley & Follett, surveyor, 21, John-street, Adelphi, London, W.C.:—

H. Morecroft	£3,700 0 0	W. Neave & Son	£2,720 0 0
W. Griffith	3,125 1 4	S. Kavanagh, Tolworth, Surbiton*	2,687 0 0
T. Adams	3,068 0 0		
Chafen & Newman	3,057 0 0		

* Under consideration.

LANGLEY (Bucks).—For additions to school residence, Middle Green, for the School Board. Mr. H. R. Gough, Howard House, Arundel-street, Strand, W.C.:—

E. J. Cuddan & Co	£224 10	S. Roberts	£178 10
J. Deverill	200 0	C. Simmons, Slough*	185 12
H. D. Bowyer	195 0		

* Accepted.

LEEDS.—Accepted for the construction of sewage works, &c., Halton, for the Rural District Council of Hunslet. Mr. Samuel Shaw, C.E., Union-street, Dewsbury:—
John Bentley, Horbury £469

LEEK (Staffs.).—For additions, &c., to public baths, Derby-street, for the Urban District Council. Mr. John Myatt, C.E., Town Surveyor, Town Hall, Leek:—

John Fielding	£1,600	Sampson Salt	£1,175
James Heath	1,399	T. Grace, Leek (accepted)	1,150

LONDON.—For making up Moffat and Livingstone-roads, Bowes Park, N., for the Southgate Urban District Council. Mr. C. G. Lawson, surveyor, Urban District Council Offices, Palmer's Green, N.:—

W. S. Williamson & Son	£1,375 17 2	Wm. Nicholls	£1,255 12 5
Newell & Robson	1,532 0 0	Geo. Bell	1,210 19 8
Thos. Adams	1,379 16 11	Wm. Griffiths, Kingsland-road, N.E.*	1,157 7 10

* Accepted.

LONDON.—For the supply of granite spalls and broken granite, for the Hackney Vestry. Mr. J. Lovegrove, Surveyor, Town Hall Hackney, N.E.:—

Guernsey.—J. Mowlem & Co.	At schedule of prices.
Guernsey.—A. & F. Manuelle	
Guernsey.—R. L. & J. Fennings, London Bridge, S.E.*	
Basalt.—J. L. Lyon & Co.	
Alderney.—G. Le Maitre	
Alderney.—L. Sommerfeld	
Quenast.—C. M. Manuelle	
Croft.—Croft Granite Company	
Cliffe Hill.—E. J. Van Praagh & Co.	
Griff.—S. Trickett & Sons	
Grey Leicestershire.—Narborough and Enderby Granite Company	
Leicestershire.—Whitwick Granite Company	
Stoney Stanton.—Mountsorrel Granite Co.	

* Accepted.

LONDON.—For painting outside work, Hayles' Buildings (1st and 2nd sections), St. George's-road, Southwark. Messrs. Waring & Nicholson, architects, 55, Parliament-street, S.W.:—

J. Mills	£392	C. Ansell	£327
W. Smith	360	Lapthorne & Co.*	314

* Accepted.

LONDON.—For alterations to "The Station Hotel," Acton, for Mr. W. F. Minns. Mr. Ernest W. Crickmay, architect, Trafalgar-buildings, Charing-cross, W.C. Quantities by Mr. Walter Herring:—

Goodhall	£2,914	Bendon	£2,497
Richards	2,578	Eastwell*	2,347
Chamberlain	2,566		

* Accepted.

LONDON.—For the erection of wards, Mitcham Workhouse, for the Holborn Union Guardians. Mr. C. Evans-Vaughan, architect:—

J. F. White	£3,413	Burnand	£3,184
C. Dearing	3,402	Saunders	3,098
Potter Bros.	3,313	Reason	3,095
Lorden & Sons	3,287	Potter	3,045
H. Wall	3,189		

LONDON.—For the erection of a warehouse, Great Arthur-street, Golden-lane, E.C. Mr. J. Randall Vining, architect and surveyor, 89, Chancery-lane, W.C.:—

F. & F. H. Higgs	£2,411	W. Johnson & Co.	£2,198
J. Willmott & Sons	2,377	J. & C. Bowyer	2,052
Higgs & Hill	2,332	Turtle & Appleton	2,048
Foster & Dickson	2,204	S. Hipwell, Wisbech*	2,800

* Accepted.

LONDON.—For pulling down and rebuilding coachhouses and stables at Charles-mews, Paddington, for Mr. J. A. Preece. Mr. Peter Dollar, architect, Clock House, Arundel-street, Strand:—

O. Craske	£3,687	Halstock	£2,687
H. C. Clifton	3,086		

LONDON.—For pulling down and rebuilding "The Eight Bells" inn, Meymott-street, Blackfriars, S.E., for Messrs. Hoare & Co., Limited. Messrs. Perry & Reed, architects, 9, John-street, Adelphi:—

Eall, Beddall, & Co.	£4,779	Clarke & Bracey	£4,634
J. Spazkes & Son	4,745	H. Knight & Son	4,608
Holloway Bros.	4,706	Perry & Co.	4,536

LONDON.—For the erection and completion of cart-sheds, steam roller shed, house, office, store, carpenters and blacksmiths' shops, &c., at the Depot, Rotherhithe-street, for the Vestry of Rotherhithe. Mr. Norman Scorgie, Surveyor:—

Chafen & Newman	£2,769 0	General Builders, Ltd.	£2,242 9
Balaam Bros.	2,550 0	H. Knight & Son, Tottenham (accepted)	2,226 7
Williams & Son	2,286 0		

LONDON.—Accepted for sanitary work and decorations, No. 49, Brixton Hill, for Mr. Geo. Conquest:—
F. C. Hoskins, Westminster (no competition £509 13

LONDON.—Accepted for general repairs and painting, Ellison Lodge, Woodside Park, N., for the Church of England Temperance Society:—
F. C. Hoskins, Westminster (no competition £105

LONDON.—Accepted for partly rebuilding and reinstating premises, 8, King John-court, for Mr. G. Tyrie:—
John Weibking & Sons £294 2

LONDON.—Accepted for partly rebuilding and reinstating premises, 7, New-street, Vauxhall, for Mr. J. Brown:—
John Weibking & Sons £179 2

LONDON.—Accepted for partly rebuilding and reinstating premises at Riga Wharf, for Messrs. King & Co.:—
John Weibking & Sons £168 2

LONDON.—Accepted for finishing three shops, Nos. 373, 375, 377, Seven Sisters'-road, N., for the executrix of the late Mr. W. Todd. Mr. A. S. Green, architect, 425, Seven Sisters'-road, South Tottenham:—
O. Bridle £840

LONDON.—For the erection of four shops in the Old Dover-road, Blackheath, for Mr. W. J. Ruffell. Mr. A. S. Green, architect, 425, Seven Sisters'-road, South Tottenham:—

Balaam Bros.	£2,400	C. Kitley*	£2,080
S. Goodall	2,155		

* Accepted.

LONDON.—For the erection of stabling, loading-stage, &c., Banner-street, E.C., for Messrs. Sutton & Co. Mr. John Groom, architect. Quantities supplied by Mr. Henry Theobald, 48, Finsbury-pavement, E.C.:—

W. Downs	£4,400	Lawrance & Sons	£3,990
Mowlem & Burt	4,339	B. E. Nightingale	3,989
Scrivener & Co.	4,215	Patman & Fotheringham	3,932
Bywaters & Co.	4,160	H. L. Holloway	3,900
Mattock Bros.	4,077	Grover & Son	3,885
Stimpson & Co.	3,998	J. Greenwood	3,634
Woodward & Co.	3,994		

LONDON.—For the erection of warehouses, Banner-street, E.C., for Mr. W. R. Sutton. Mr. John Groom, architect. Quantities supplied by Mr. Henry Theobald, 48, Finsbury-pavement, E.C.:—

Scrivener & Co.	£17,591	Patman & Fotheringham	£16,653
Mowlem & Burt	17,043	Stimpson & Co.	16,040
Woodward & Co.	16,693	B. E. Nightingale	15,985
Lawrance & Sons	16,492	H. L. Holloway	15,737
Bywaters & Co.	16,360	Mattock Bros.	15,555
Grover & Son	16,374	J. Greenwood	15,364
W. Downs	16,200		

LONDON.—For rebuilding No. 77, City-road, for Mr. A. Berliner. Mr. John Groom, architect. Quantities supplied by Mr. Henry Theobald, 48, Finsbury-pavement, E.C.:—

Woodward & Co.	£2,098	Kilby & Gayford	£1,989
H. L. Holloway	2,077	Grover & Son	1,957
Mattock Bros.	2,055	Stimpson & Co.	1,925

LONDON.—Accepted for the erection of house, Bolls Bridge-road, South Acton, W. Mr. Edward Monson, architect, Acton Vale, W.:—
G. Hooper, Acton £500

LONDON.—Accepted for construction and sewering of first portion of Somerset-road, on the Southfield Park Estate, Acton-lane, Chiswick, W. Mr. Edward Monson, architect, Acton Vale:—
J. Mears, Earl's Court £490

LONDON.—Accepted for additions to laundry in Strafford-road, South Acton. Mr. Edward Monson, architect, Acton Vale:—
C. Hanshaw, South Acton £185

NOTTINGHAM.—For the construction of a bridge over River Leen, Ilkeston-road, Old Radford, for the Corporation. Mr. A. Brown, C.E., Guildhall, Nottingham:—

Thomas Smart	£2,544 8	J. Tomlinson, Derby*	£2,350 0
W. H. Raynor & Sons	2,388 5		

* Accepted.

PATNA (N.B.).—Accepted for the erection of business premises, for the Patna Co-operative Society. Mr. H. V. Eaglesham, architect, Ayr:—

Building.—Hutchinson, Ayr	£1,016
Joinery.—J. & D. Meikle, Ayr	559
Plumbing.—J. C. Highet, Ayr	180
Plastering.—J. Kerr, Maybole	114

PENKRIDGE (Staffs.).—For the execution of sewerage works, for the Parish Council. Mr. J. E. Wilcox, C.E., Union Chambers, Birmingham:—

S. Preston & Son	£200 0	Currall, Lewis, & Martin	£153 0
D. H. Porter	169 0	Henry Law, Erdington*	146 10
F. Sprenger	160 0		

* Accepted.
[Engineer's estimate, £152.]

PENYGRAIG and TREORKY (Wales).—For the execution of sewerage works, for the Ystradyfodwg Urban District Council, Mr. W. J. Jones, Surveyor, District Council Offices, Pentre R.S.O., Wales:—

C. Gardner, Cardiff*	£49 7 4		
R. C. Brebner, Edinburgh†	971 16 3		

* Accepted for construction of sewer at Treorky.
† For Penygraig sewers.

RETFOFD.—For additions to "Rock House," for Mr. Geo. Salients. Messrs. Eyre & Southall, architects, Retford:—

G. Fenton	£242	F. Fenton (accepted)	£228

RETFORD.—For the erection of residence, for Councillor Broadbery. Messrs. Eyre & Southall, architects, Retford:—

F. Beastal	£846 10	E. & C. Swannack	£770 0
G. Hurst	798 10	T. Hopkinson	740 0
E. Wilson	780 0	G. Ledger*	735 0
J. Wilson	775 0		

* Accepted.

RETFORD.—For the erection of two cottages, for Mr. T. Glenn. Messrs. Eyre & Southall, architects, Retford:—

G. Hurst	£480	G. Fenton	£436
C. Jones	444	F. Fenton	432

RETFORD.—For the erection of house, for Mr. Gyles. Messrs. Eyre & Southall, architects, Retford:—

J. Wilson	£462 0	E. & C. Swannack	£396 10
G. Ledger	399 0		

SOUTHAMPTON.—For the supply of 1,000 tons broken Guernsey granite, for the Corporation. Mr. W. B. G. Bennett, borough engineer, Municipal Offices, Southampton:—

E. & H. Beavers	£700 0	J. L. Lyon & Co.	£560 10
J. Mowlem & Co.	595 0	A. & F. Manuelle	537 10
R. L. & J. Fennings	575 0	Sandell Bros., Southampton (accepted)	532 10
W. Griffiths	562 10		

STAINES.—For the supply of 1,000 tons of granite (broken), for the Urban District Council. Mr. E. J. Barrett, C.E., Town Hall, Staines:—

Guernsey Granites.	in.	s.	d.
Trickett & Sons	1½	15	3
Mowlem & Co.	1½	15	2
" "	1¾	15	9
W. Griffiths	1½	15	2
" "	1½	14	9
A. & F. Manuelle, Leadenhall-street	1½	14	5
" " "	1½	14	2
" " "	1½	14	11*
R. & J. Fennings	1½	14	4
"	1½	14	4
Fry Bros.	2	14	0

Alternative.

	in.		s.	d.
Clee Hill Dhu Co.	1½	Clee Hill	15	0
" "	1¾	"	15	0
Enderby and Stoney Stanton	1½	Enderby	14	9
" " "	1¾	"	14	3
Mountsorrel Granite Co.	1½	Mountsorrel	14	6
" " "	1¾	"	14	0
" " "	1½	Stoney Stanton	12	9
Smith, M., & Co.	1½	Forest Rock	13	10
Lyons & Co.	1½	Basalt	13	10
"	1¾	"	13	10
Narborough & Enderby	1½	Narb. & Enderby	13	8
" "	1¾	" "	13	6
Kalkombach & Schmitz	1½	Belgium	13	6
" "	1¾	"	13	6
Croft Granite Co.	1½	Croft Granite	13	6
" "	1¾	"	13	2
Ellis & Everard	1½	Bardon Hill	13	0
" "	1¾	"	13	0
Trickett & Sons	1½	Griff	13	0
Whitwick Granite Company	1½	Leicester	11	9
" " "	1¾	"	11	9
" " "	1½	Whitwick	11	9
" " "	1¾	"	11	9
Mendip Granite Company	1½	Winsor Hill	9	3
" "	1¾	"	9	0
T. Wainwright & Co.	1½	Mendip Black Rock	9	8
" "	1¾	" "	9	0

* Accepted, carted into district.

SUTTON (Surrey).—For the supply of granite and flint road-metal, for the Urban District Council. Mr. A. D. Greatorex, Surveyor, Public Hall, Sutton:—

Broken Granite.

	s.	d.		s.	d.
Kent Road Maintenance Co.*	12	11	Griffiths	16	0
			Summerfield & Co.	12	9

Flints.

	s.	d.		s.	d.
Hall & Co.	5	0	Hudson & Co.	5	1
G. T. Hall*	4	8	Potter & Co.	4	9

Hand-picked Flints.—Hudson* 7 12

* Accepted.

TADCASTER (Yorks).—For the execution of sewerage works, Bridge-street, for the Rural District Council. Mr. H. Denham, Inspector of Nuisances, Aberford. Quantities by Mr. H. Denham:—

Edmund Haigh	£135	John Heaton, Aberford	
		Leeds (accepted)	£112

TIVERTON (Devon).—For the restoration of Loxbeare church, No. 1 Section. Mr. E. H. Harbottle, architect, Exeter:—

Grater Bros.	£265	H. F. Wood, Tiverton*	£217
Harry Hems & Sons	244		

* Accepted.

WATFORD.—For sewering, paving, &c., Leavesden-road (part 2), for the Urban District Council. Mr. D. Waterhouse, Engineer, 14, High-street, Watford:—

F. Dupont	£410 19	G. Capper	£386 10
N. B. Watkins	390 0	G. R. Mann, Edgeware*	379 10
Bracy & Clark	387 0		

* Accepted.

WEST HAM.—For the execution of street works, Forest Gate, for the Town Council. Mr. Lewis Angell, Borough Engineer, Town Hall, Stratford, E.:—

Private Street Works.

T. Adams	£919 1 1	G. Wilson	£820 17 10
A. & H. Rutty	896 0 1	W. Griffiths, Kingsland-road, E.*	805 18 0
J. Jackson	882 0 0		
Gibbs & Co.	863 3 1		

* Accepted.

WHITECROFT (Isle of Wight).—For the erection of farm buildings, &c., on the Asylum Estate, for the Committee of Visitors of the Isle of Wight County Asylums. Mr. B. S. Jacobs, Hull, architect. Quantities by the architect:—

T. Jenkins, Newport, Isle of Wight £1,678

WILLENHALL (Staffs.).—For additions to St. Giles' Church, for the Vicar and Churchwardens. Mr. J. P. Baker, architect, 33, Market-place, Willenhall. Quantities by the architect:—

H. Lovatt	£1,400 0	J. Guest & Sons, Stourbridge (accepted)	£1,220 0
Willcock & Co.	1,195 1		

WILLENHALL (Staffs).—For alterations, &c., to Portobello Schools, for the Willenhall and Bentley U.D. School Board. Mr. J. P. Baker, Architect, 33, Market-place, Willenhall. Quantities by the architect:—

Willcock & Co.	£920 1 3	Bradney & Lloyd	£752 10 0
Hammonds Bros.	813 16 11	H. Nilderley, Willenhall*	749 0 0
J. W. Lord	820 0 0		
J. Guest & Sons	789 18 11		

* Accepted.

YSTRAD MYNACH (Wales).—For the erection of two villa residences, for Mr. Richards. Mr. R. B. Hatchelor, architect, 92, St. Mary-street, Cardiff:—

Ellis Williams	£769 0 0	W. Yeo. Fleur-de-lis*	£575 10 0
J. Lloyd	602 10 6	E. Mainwaring	575 0 0
Williams & Thomas	558 0 0	Jones & Herd	495 12 3

* Accepted.

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J. M. (Amounts should have been stated.)—C. J. C., H. D. (Below our limit.)

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